Thesis Title: The timing of patterning or the patterning of timing? Organisational routines in temporary organisations.

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Declaration

'I, Simon Addyman, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.'

Abstract

Large, or mega, construction project organisations are temporary in nature and traditionally structured around a life cycle model consisting of predefined, time bound sequential stages of work that are designed to process information and reduce uncertainty. Yet as organising through projects becomes both more prevalent and challenging, it could be argued that such a model constrains our understanding and representation of what 'actually' happens beyond these deterministic structures and prescriptive routines, specifically in understanding 'how' construction project organisations transition through the predefined time boundaries of the sequential stages.

This thesis contributes to this knowledge by identifying an alternative image of the life cycle model through empirically investigating the *'transition'* between life cycle stages, with '*incomplete'* information. It identifies a five stage '*recursive process model of transitioning*' that highlights the underlying generative mechanisms involved in the (re)creation of organisational routines in managing the incompleteness associated with transitioning from one life cycle stage to the next.

It presents an empirical autoethnographic case study over one year, observing a construction project organisation as it sought to transition from its design stage, through formal sanction, and into its construction stage. Informed ontologically by process metaphysics, and through challenging the underlying theoretical temporal assumptions of temporary organisations - 'newness', and organisational routines - 'repetition', it describes managing project transitions as 'dialogical action', influenced by the spatiotemporal aspects of the organising inquiry. It identifies the patterning of action within six transition routines, that when mapped over time present the five stage recursive process model of transition.

Despite a successful three-year relationship in developing organisational capability between the client and the contractor in the design stage, as the pre-defined date for the commencement of the construction stage neared, there emerged a realisation of the impending uncertainty that this new stage would bring. Triggered by various formal and informal transition 'rituals', the organisations' search for, and assumptions about the 'sufficient completeness', or 'necessary incompleteness' of information led to both the effortful and emergent (re)creation in the 'patterning of dialogic action' from the design stage, into the construction stage.

Acknowledgements

This thesis has at many points along the way felt an incredibly lonely journey, but which has paradoxically been a collective effort. While I take full responsibility for its content, there are many who I would like to thank here for their significant contribution.

First and foremost, I would like to thank my wife Karolina. I clearly remember the day we decided together to give this endeavour a chance and she has never stepped back from her unrelenting support, through good times and bad. And there have been many of both. We had our reasons for embarking on this journey together, I deeply thank you for everything and look forward to sharing in the rewards together for the rest of our lives.

I cannot talk of Karolina without also thanking my daughter Connie. Presently, her understanding of what I have done relates only to times spent in my office when it should have been with her. I made every effort to separate study and personal life, but anyone doing a doctorate knows that it is all consuming. I often had to make a difficult choice, but I know we will be rewarded with more time together in the future.

And of course to my wider family, both in the UK and Macedonia, but especially my mum, Hannah and dad, John, who have perhaps spent the last five years wishing I had put the same level of effort in 35 years ago when I was at school! A special thanks also goes to my cousin Bridget, I shall never forget my stop overs in Belgrade and without whom I would not have discovered the work of Mikhail Bakhtin.

I was often told before I started my PhD that selecting the right supervisors was critical and to that end I have been incredibly lucky and would like to sincerely thank Stephen Pryke and Andy Davies. I would especially like to thank Stephen as my principal supervisor, who on many occasions freely offered support and guidance beyond the role of supervisor, and for which I will be eternally grateful.

I would like to thank all the participants of the study, my colleagues on the Bank Station Capacity Upgrade project. Your support and willing engagement was incredible and without which this study just would not have been the same. The memories of our time together on the project will never leave me.

I would like to thank my two referees, Bill Wallace and Harvey Maylor, their guidance and support pre PhD was very generous and I look forward to sharing the results of this study with them. Likewise my colleagues and fellow PhD students, both at UCL and beyond. It has truly been a shared journey and I thank them all for that.

Last but not least, my close friends, you know who you are and like every other adventure we have all been on in our own ways, it's never the same without sharing the stories with you.

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1 Chapter One - Introduction

1.1 Introduction

This thesis is a journey of discovery. It is an empirical organisational-auto-ethnographic (Parry and Boyle, 2009) single case study (Eisenhardt and Graebner, 2007) of the transformation of organisational routines (Feldman and Pentland, 2003) as a temporary organisation 'transitions' across a pre-defined time boundary (Lundin and Söderholm, 1995; Jacobsson et. al., 2013). Beyond the deterministic life cycle model of temporary organisations (Söderlund, 2012; Winter et, al., 2006), it identifies a five stage '*recursive process model of transitioning*' by identifying the underlying generative mechanism of how 'perceived stable and regular patterns of action' are transformed across a predefined time boundary, through the '*patterning of dialogic action*' that (re)creates organisational routines.

It contributes to knowledge in the theoretical areas of temporary organising (Bakker et, al., 2016) by presenting an alternative image of the traditional and deterministic life cycle model and to routine dynamics (Feldman et, al., 2016) by presenting the 'chronotope' as a categorical structure of the 'dialogic action', within and between organisational routines.

I write this thesis predominantly in the ethnographic genre of a post structuralist tale (van Maanen, 2011). "Unlike other forms of ethnography, post structural tales frequently emphasize and play up what the authors don't (quite) know rather than what they do … neither the individuals nor their social worlds are treated as if they are fixed, dependable entities, possessed of any natural, inherent qualities. All is in flux" (2011:170). I withdraw from this approach and towards a more realist tale when presenting the theoretical framework in Chapter Three.

And so, in this journey of discovery, this thesis is an incomplete 'artefact' (Becker, 2004) that marks my own '*transition*' from one spatiotemporal 'trajectory' to the next (Abbott, 2003). I suggest therefore that, as I transition, my knowledge from this 'experience' and the knowledge I contribute to theory is '*necessarily incomplete*' (Rescher, 1996). Its sense of completeness comes not from my 'self' as the author, nor in fact from 'you' as the reader, but from the 'dialogical' relationship that this thesis creates between us (Holquist, 2002).

The concepts of '*incompleteness*' (Rescher, 1996) and '*transition*' (Lundin and Söderholm, 1995) are explored throughout this thesis.

Despite this '*necessary incompleteness*', I suggest that this thesis is '*sufficiently complete*' in order that it may make a contribution to knowledge in the field of construction project management, a field within which I have practiced for over 30 years, before turning my hand to academia and seeking to philosophically, theoretically and empirically explore and contribute to that knowledge and share it with others.

In this introductory chapter therefore, I start the journey by firstly explaining three important aspects of this study, before setting out the content of the thesis in more detail. Firstly, because defining the problem is always a good place to start, both in managing projects and academia (Morris, 2013; Van de Ven, 2007), I explain the practical and theoretical problems and challenges that this thesis is founded on. Secondly, as this thesis is based on a case study, I present a short introductory narrative to the case, focusing on specific features that are relevant to this study. Thirdly, as an autoethnographic piece of work, it is important to position this thesis by responding to the question - 'what type of study is this?'.

In the final section, the structure of this thesis is set out so the reader can logically follow my philosophical position, through the development of theory to a research question and then my journey through methodology and analysis to arrive at my '*recursive process model of transitioning*' and the presentation of my contribution to knowledge.

1.2   Problematisation – practical problem and theoretical challenge

This section explains the origins of both the practical problem and theoretical challenge, that lie at the heart of this thesis. The purpose of doing this is not just because early 'problematisation' lies at the heart of project management (Morris, 2013) and academic work (Van de Ven, 2007; Alvesson and Sandberg, 2011), but that this thesis forms a part of my 'necessarily, or continuously, incomplete journey of discovery' that started long before I commenced my doctoral research. Although this is an autoethnographic thesis (Hayano, 1979), I seek to avoid a self-absorbing autobiographical narrative and to produce a more analytical piece of academic work (Anderson, 2006). The practical problem and theoretical challenge act as a way of providing a boundary between my personal life and career, and a doctoral thesis.

I am guided in this problematisation by the work of Abbott (2004), Alvesson and Sandberg (2011) and Van de Ven (2007). As a practitioner with a postgraduate qualification and an approved doctoral research proposal, I entered into my research with some conception of the practical and theoretical space that I would explore. As I draw a close to my doctoral research, I am better able to understand and convey those problems, both practically and theoretically, and I do that here early in the thesis, for you the reader to be able to share with me my understanding of the beginning of my '*transitional'* journey.

Firstly, I deal with the practical organisational phenomenon that I have observed on a number of occasions in my career, but most specifically on the case study that I draw on in this thesis. Secondly, drawing specifically on the work of Alvesson and Sandberg (2011), I present what I perceive to be as an opportunity to challenge the underlying temporal assumptions of the two main theories which I draw upon in this thesis.

1.2.1   Observed organisational phenomenon

After leaving school, for the first 15 years of my practical experience working 'on' projects and 'for' project managers, I was always struck with how they managed to stabilise what seemed to be an environment of continuous change. Following the completion of my MSc (which occurred in the last three of those fifteen years), I gained the knowledge that this stability came about through implementing a normative and deterministic life cycle model of change, moving a set of resources for a singular goal or purpose, from steady state A to steady state B in a controlled and formal manner, through predefined time bound stages of an organisations life cycle. Over the following ten years of 'managing' projects, I eagerly implemented this knowledge as I started to take accountability for being 'the' project manager. While I continued to 'believe' this knowledge appropriate, as time progressed, I started to 'doubt' it encompassed all that I needed to know (Locke et, al., 2008).

I was continuously discovering that there was something beyond this formal planning and control that I could not quite see, feel or touch, some underlying mechanism that was seemingly triggered by the continuous emergence of 'new' experiences – new information, new people, new contexts, new project stages, new processes, new technology and new projects. This '*newness'* seemed to incorporate a sense of '*incompleteness'*, a continuous search for information to complete the activities we had planned and were seeking to control to achieve our goal. Stability, I realised, was no more than a surface perception of our efforts in continuously planning and controlling the ongoing change and flux of the world in front of us.

Most notable for me, having spent much of that ten years developing the early stages of a project, was the notion of '*incompleteness'* in the act of search and choice at the point of '*transition'*, as project organisations sought to move from one life cycle stage to the next. At this time, I understood completeness as being a clear and unambiguous decision on what happened next and transition to be the formal signatory approval to those decisions that were set down in contract and governance documents. I had written corporate governance handbooks on the subject, as well as numerous project management governance plans, explaining the 'stage gate review and approval' process, as well as being subject to that process myself in managing a number of

projects. And yet I still found that teams struggled to achieve the completeness demanded of these stage gate approvals, most specifically how they moved from what is often termed the 'definition' stage of a project and into the 'delivery' stage. For myself in construction, this tended to centre on the point in the life cycle where the client had undertaken some design, and was seeking to procure the services of detailed design and construction in the market.

I experienced this again at the end of 2011 and early 2012 as I took over the management of a large infrastructure (mega) project that is the subject of the case study in this thesis. I found a capable but unstable project organisation, struggling to arrive at a sufficient level of '*completeness'* to finalise a concept design, which contained high levels of uncertainty, and make the decision to procure the design and build services in the market. The outcome of our approach to this incompleteness and uncertainty, and building on the ongoing learning and knowledge within the organisation, was the implementation of an innovative procurement methodology, resulting in the award of an eight-year 'design and build' contract in the summer of 2013. Final sanction for the project to 'transition' from a complete design to construction was planned for 21st April 2016, and so this transition offered the opportunity to empirically explore this organisational phenomenon, following the commencement of this doctoral thesis in January 2014.

So, if it was not solely the formal governance, planning and control mechanisms that took project organisations across these life cycle stages, with their search for incomplete information, then would it be possible to identify some of the underlying generative mechanisms? Would we be able to 'see the unseen', so as to create more stable project organisations? In Chapter Three, I will present a theoretical framework associated with these questions. But before doing so, in the following section I will present a challenge to the underlying temporal assumptions with the two main theories used in developing the theoretical framework for this study.

1.2.2   Challenging underlying theoretical assumptions

As discussed above in section 1.2, I did not enter this journey of discovery void of theoretical knowledge of what I have observed and experienced in practice. Following the financial crisis of 2008, changes in the project I was managing caused me to investigate undertaking a doctorate. This led to the development of a draft proposal that included the literature on temporary organisations (Lundin and Söderholm, 1995) and organisational routines (Feldman and Pentland, 2003). On formal commencement of this thesis, I explored literature beyond these boundaries, yet in submitting for my upgrade, I remained theoretically within the framework of these two theories.

It would be wrong to suggest that at the end of my literature review I understood the challenge to the underlying assumptions of these two theories (Alvesson and Sandberg, 2011). Following the principles of a process philosophy and understanding the iterative (Van de Ven, 2007) and heuristic (Abbott, 2004) nature of research, I have come to understand the above practical problem and the following challenge to the underlying temporal assumptions, with greater clarity.

In 'a theory of the temporary organisation' presented by Lundin and Söderholm, (1995) there is an underlying assumption that the temporary organisation does not exist in the '*ongoing present*' until it is '*created anew'* and given, ex-ante, a time delimited life cycle. Lundin and Söderholm (1995) suggest that 'time' is a 'basic' concept of temporary organisations, and that temporary organisations are fixed, discreet organisational units that are created to control capital investment initiatives that fall outside of the normal operation of the parent (permanent) organisation. Human subjects, referred to as 'agents', and non-human objects, referred to as 'artefacts', are temporarily brought together in 'relational' and 'transactional' arrangements to create this new organisational unit and they work 'interdependently' to process 'information', to reduce 'uncertainty' and produce outputs as they 'transition' through the predefined stages of the life cycle, before the temporary organisation is terminated.

Conversely, in 'a new theory of organisational routines' by Feldman and Pentland (2003) there is an underlying assumption that the organisation '*already exists*' in the '*ongoing present*' and its capability is based on the ongoing (re)creation of routines. Time is an implicit concept within organisational routines as it is their 'repetition' over time that creates their identity. 'Organisational routines' are a central feature of organisations and organisational research. Organisations are said to become capable through the evolution of routines. Organisational routines are defined as "repetitive, recognisable patterns of interdependent actions, carried out by multiple participants" (Feldman and Pentland, 2003:95). Routines are generative in that, over time, they sustain both change and stability within organisations as efforts to sustain regular patterns of action often result in the emergence of new patterns.

This 'newness' characteristic of temporary organisations suggests a lack of 'repeated interaction' and 'recognisable patterns of action' within temporary organisations. Temporary organisations could therefore be characterised by 'organisational uncertainty' at the start of each life cycle stage, making them potentially unstable structures until routines are (re)created and levels of perceived uncertainty reduced. In construction project management, this 'organisational uncertainty' can be understood as both 'contractual' or 'transactional' uncertainty [the need to divide tasks to specialists through

formal contracts] and 'relational', or 'interdependence' uncertainty [the need for that specialised labour to work together to achieve their tasks], and (Söderlund, 2012; Jones and Lichtenstein, 2008) and these uncertainties will be discussed further in the Chapter Three.

While both theories (Lundin and Söderholm, 1995; Feldman and Pentland, 2003). recognise the centrality of 'action' and 'time', more recent theorising (Feldman et, al., 2016; Bakker, et, al., 2016) has challenged some of the underlying ontological and epistemological positions of these theories with respect to the relational, temporal and spatial aspects of the patterning of action (Feldman, 2016; Feldman, et, al., 2016; Simpson and Lorino, 2016; Howard-Grenville and Rerup, 2017).

This thesis seeks to address this challenge by empirically examining how time limits, defined ex-ante, influence the (re)creation of routines (Feldman, 2016; Dionysou and Tsoukas, 2013) as temporary organisations '*transition*' through the stages of their life cycle. I do this through asking the research question: *'How are 'patterns of action' (re)created in temporary organisations?* Chapter Three presents the theoretical framework for this challenge and summarises the literature to arrive at this research question.

Having presented the observed organisational phenomenon and my challenge to the underlying theoretical temporal assumptions, the following section presents the thesis case study.

1.3   A short case study narrative

The methodology in Chapter Four will provide a more theoretically grounded reasoning for selecting this thesis' case study. In this section I will briefly summarise the key points to enable you the reader to become more familiar, as much as reasonably practical, with my project world as it was when I undertook this study. This will help our shared journey through this thesis. It starts with a brief overview of the scheme, then moves on to a discussion of the procurement model that gave the project its central characteristics in terms of project management, before finally highlighting the key features of the project.

1.3.1   A brief overview

This thesis is centred on a case study of a large inter-organisational construction project entitled the Bank Station Capacity Upgrade (BSCU) project. For a period of five years from October 2011 to September 2016 I was the client's project manager accountable for the delivery of this project. The project was fourth in line of a programme of major station capacity projects for Transport for London (TfL), the statutory body accountable for all public transport within the City of London in the United Kingdom. The project was

managed by the Capital Projects Directorate of London Underground (LU), a wholly owned subsidiary of TfL. Further detail on TfL and LU will be provided in Chapter Two.

The project was situated in the main business and financial district in the City of London, densely populated with offices and cultural buildings and within a conservation area. The Bank underground railway station was a critical piece of public infrastructure for those commuting to and from work but had in recent years, due to population growth, become heavily congested to the point that the capacity of the station could no longer cope with passenger demand.

The primary purpose of the project therefore was to relieve passenger congestion within the station by creating additional capacity. The scope of work included the purchase and demolition of commercial property, the construction of an additional 600m of new rail tunnel to be connected to existing one hundred and twenty year old tunnels (the new tunnel is shown as the dotted black line in figure 1.2 below), extensive reconfiguration of existing, and the construction of new, underground passenger walkways and passages, an additional twelve new escalators, two new lifts, additional power supply with associated cabling and mechanical equipment, new communications equipment and a new station entrance to replace the demolished commercial buildings.

These works were to be undertaken on two worksites above ground, and within the confines of the underground railway station below ground. There were extensive above ground construction logistics on an already congested inner city road network. Authority for the design and statutory planning of the project had been granted in July 2013. Full authority for the project was granted in April 2016 and was subject to the satisfactory completion of the design and granting of statutory planning approvals through a Transport and Works Act Order (TWAO) application that was subject to a public inquiry led, managed and approved by the Minister for the Department for Transport (DfT). The public inquiry was completed in May 2015, with the TWAO being granted in December 2016. The full suite of TWAO documents are publicly available from TfL (TfL, 2016). The overall schedule for the project is shown in figure 1.1 in section 1.3.3 below.

The project had commenced in 2003, going through a number of transformations in terms of its scope and business priority. In late 2010, the DfT wrote to Transport for London, stating that the capital investment funding settlement for the project was subject to its completion no later than 2021. At the time that this date constraint was placed on the project, the emerging 'concept design' in 2011 was presenting a scheme, that while having an acceptable business case of approximately 2:1 (the government threshold being 1.5:1), the emerging budget exceeded TfL's business plan, and the planned completion was projected to be late 2023, over 18 months beyond the stipulated DfT

date of the end of 2021. This led LU to explore opportunities to innovate in the way it procured design and construction services, which is described in the following section.

1.3.2 An innovative procurement model.

Being fourth in line of a programme of station capacity upgrades, LU grasped the opportunity to build on their organisational knowledge and learning from the previous three projects. In doing so, the BSCU project acted as a 'vanguard' project (Frederiksen and Davies, 2008) and ventured into unchartered territory in implementing a novel procurement methodology that was entitled Innovative Contractor Engagement.

The innovative procurement methodology had the following key features:

> ➢ It sought to protect supply chain innovation (through a joint confidentiality agreement) during the tendering process and in advance of contract award, in order to reduce the uncertainty that was causing the cost and time escalation;

> ➢ It sought this innovation through a negotiated dialogue phase in advance of formal issue of the tender documentation, where the client shared the complete suite of project information that had been developed since 2003, mitigating information asymmetry;

> ➢ The application for statutory planning through the TWA would be incorporated into stage 1 of the contract and a bespoke break clause was included that gave the client discretionary authority to instruct stage 2, or not. This was entitled the Stage Two Works Commencement Notice (STWCN);

> ➢ The winning tender was awarded based on the additional value it created within the projects' business case, focusing primarily on the enhanced business benefits derived from the winning tenderer's innovation and with the business case then incorporated into the main design and build contract.

1.3.3 Key organisational features and timings of the project

The design of the project delivery model in conjunction with the innovative procurement model led the project to have the following key organisational and timing features:

> ➢ The project was led and managed internally by LU (the client – an owner, project based organisation), supported by external consultants and responsible for managing all external relationships with stakeholders, specifically in gaining statutory planning authority through the TWAO;

➤ The client had a single contract with a Main Works Contractor (the contractor) who would be accountable for both the design and construction of the works and who would be in contract with and supported by their external supply chain of designers and works sub-contractors;

➤ The external consultants working for the client and the supply chain working for the contractor were contracted in separate dyadic relationships, however the project tasks to be achieved led to high degrees of interdependency between these external parties as well as between themselves and the client and contractor.

It should be noted that this was the first time for the client and contractor to work together in an inter-organisational arrangement such as this. An organisation chart is provided in Chapter Two, which looks at the wider organisational context.

➤ The fixed end date of the project given by the DfT created a traditional ex-ante defined project life-cycle, the main dates and milestones are presented in figure 1.1 below.

➤ Achieving the transition from stage 1 to stage 2 would be subject to TfL Board governance and assurance, which is described in further detail in Chapter Two. It required the completion of the detailed design, satisfactory presentation of an approved budget and risk profile and the award of statutory planning (TWAO) by the DfT. Without the TWAO, the project would not proceed.

It is this 'transition' from stage 1 to stage 2 that is the subject of this study.
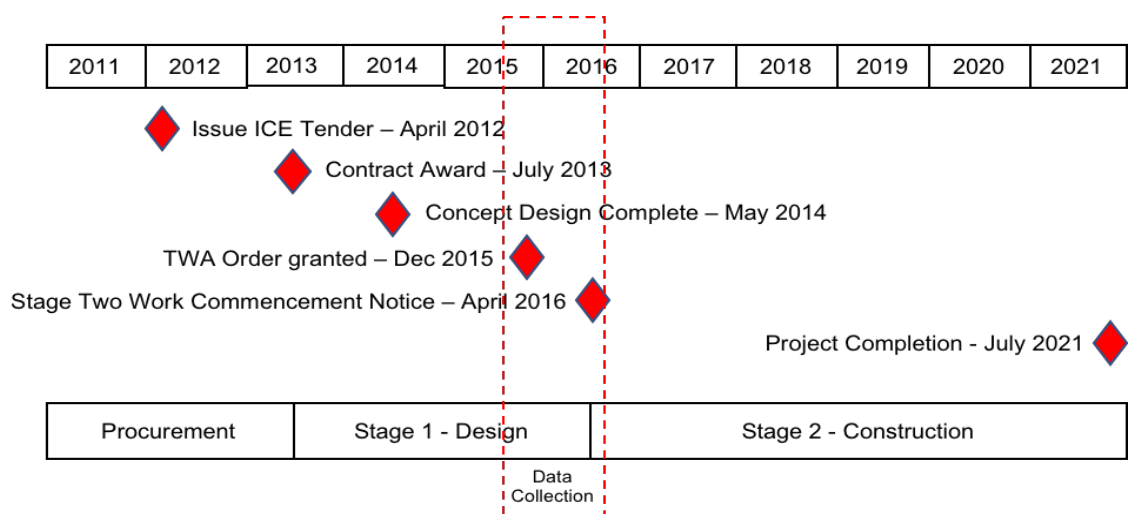
Figure 1-1 - BSCU Project Schedule

1.3.4 Key project documents

The Innovate Contractor Engagement procurement model generated two key documents (artefacts) that governed the relationship between the client and the contractor (in addition to the corporate governance of both the client and contractor organisations):

➢　　The first was a 'relational' based contract that was structured on the basis of completing the works within a target cost arrangement, where the client and the contractor would share the pain or gain, from achieving the project above or below budget respectively. This 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 'Stage two Works Commencement Notice' 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, that sought to help in governing the behavioural relationship between the client and the contractor in order to manage the uncertainties and the interdependencies that the client knew to be inherent in these types of complex public infrastructure projects. The building blocks of this relational framework were established during the negotiated dialogue stage of the innovative procurement model.

The organising problems associated with managing the contract and the interdependencies are discussed further in Chapters Two and Three.

1.3.5 The physical location

The physical location of the project was in the heart of the financial centre of the City of London. This meant that the project was being undertaken in a densely populated and heavily congested part of the city in direct view of some of the most politically, financially and culturally powerful people in the City of London. Located predominantly in a designated 'conservation area', it interfaced with over sixty properties (containing over six hundred different parties) that ranged from brand new commercial office developments to 17th Century churches, and tunnelling within metres of the Bank of England. As described above, two worksites were planned above ground (shown in the red shaded areas in figure 1.2) with extensive transport logistics from and between each one, which would support all above and below ground works. The granting of the TWAO

in stage one would be subject to agreement from all the affected parties associated with these worksites.

At worksite one, the project was to purchase the six properties on the site that would be demolished and replaced by a new, single, commercial property that would incorporate a new station entrance and whose financial benefits were incorporated into the project's business case. The project office was accommodated in one of these properties during stage 1 and prior to full sanction of the project. Post full sanction, five of the six properties were to be demolished with one retained for the management staff for construction.

Worksite two occupied a road which was subject to full closure, the removal of public utilities and the construction of an eight-metre diameter shaft from which all the tunnelling and excavation of material would take place. The road was surrounded by commercial offices and its use as a worksite subject to significant objection by stakeholders. This worksite was originally planned to accommodate all the project staff undertaking the construction work.
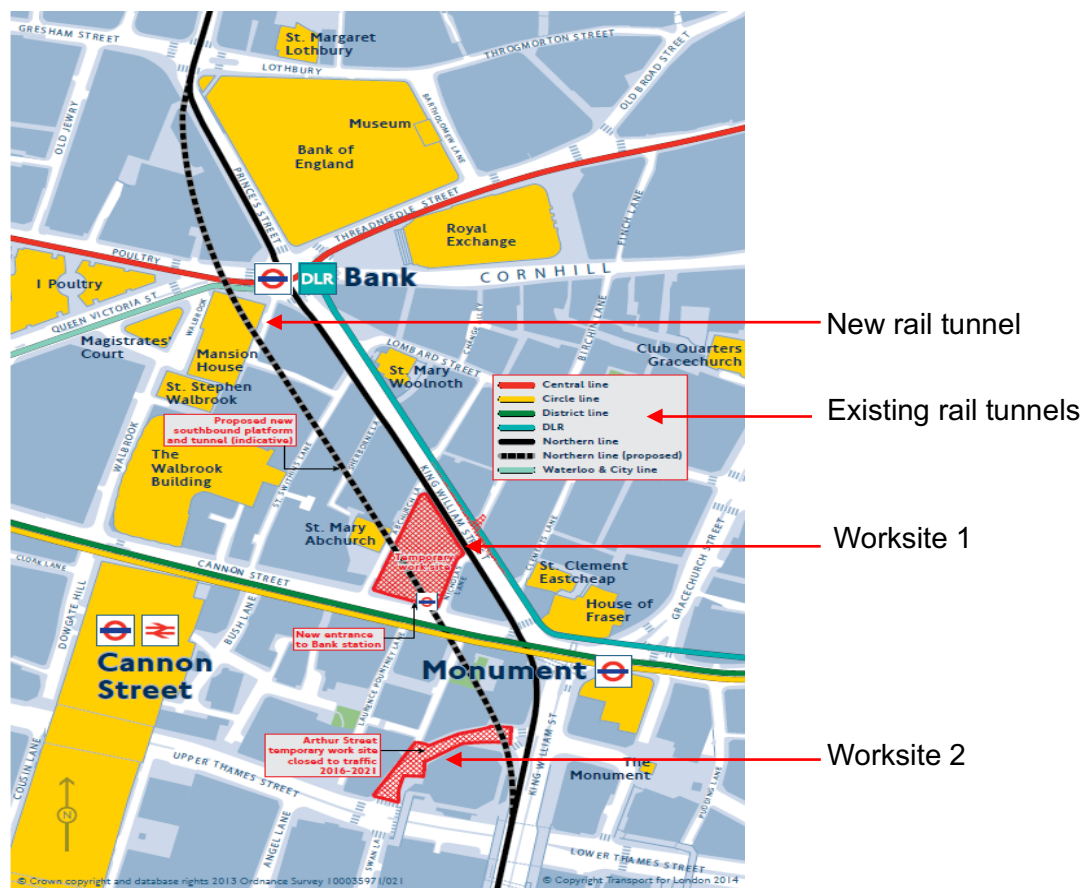
Figure 1-2 - Physical location of BSCU project

1.3.6   The transition

By June of 2015, two years into the contract, the project had been successful in being granted planning for the commercial development on worksite one and the utility

diversions, while challenging, were progressing on worksite two. It had completed and been granted approval for 'concept design' by May 2014 and the project had progressed well into detailed design. It had successfully avoided a protracted and drawn out public inquiry for the TWAO and in June 2015 it formally submitted the application to the Secretary of State. It had purchased four of the six properties on worksite one 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 worksite two but this had resulted in constraining the size of the site and the plans for the operation of construction and the accommodation of the construction staff.

The relationships that had developed between the client and main contractor during the ICE procurement and the shared values and objectives that were enshrined in the management protocol had worked well for the management team. It was not without its challenges like other projects of this type, but the project continued to win industry awards for the procurement and relational approach to managing the project. It had become a strong team, working collaboratively together not just at management level but between designers, sub-contractors and relationships back into the engineering and sponsor teams in the LU and main contractor organisations. All the project participants were collocated in a single office and those visiting found it difficult to tell which participant was from which organisation.

It had become a feature over the previous two years of the project to hold team events or workshops to take stock of where we were and plan for the near future. These were in addition to monthly 'breakfast' meetings where we got the whole team together to share information, and these became a part of the project's business rhythm. Having submitted the TWAO and now well into detailed design, on the 29th June 2015, G5, the five senior members of the joint management team, took the Senior Management Team (SMT) away for the afternoon to reflect on what had been achieved and plan for the impending transition in nine months' time, from design (stage one) and into construction (stage two).

It was at this workshop that G5 experienced a realisation that all was not well in the performance of the team. The focus of the team on the public inquiry and submission of the TWAO had masked over an underlying inertia and lack of communication between the functional teams of the project, specifically the design and construction teams. It was apparent that we were a long way from being ready for the transition into stage 2.

1.3.7 Summary

This section 1.3 provided a brief overview of some of the main features of the case study that is the subject of this thesis, with the final section 1.3.5 explaining up to the start of data collection. In chapter six I will pick up the story again, providing a narrative of the transition from July 2015, through to formal sanction in April 2016 and beyond into the early stages of construction up to July 2016, when I stopped data collection and left the project.

Before I present that wider industrial and organisational context in Chapter Two and introduce the separate chapters of this thesis in the final section of this Chapter One, the following section will briefly discuss what 'type of study' this thesis is.

1.4 What type of study is this?

Before setting out the thesis structure in the final section, this section positions what type of study this thesis is. At the time of awarding the contract in July 2013, I decided to grasp the opportunity to undertake a PhD, which formally commenced in January 2014. During 2014, as I developed the theoretical framework, the opportunity to challenge the underlying assumptions of the theory of a temporary organisation and a new theory of organisational routines presented itself and within this, the theoretical concept of 'transition'. As I started to develop the methodology, I realised, through reading and sharing ideas with others, that a unique opportunity presented itself to undertake an autoethnography and observe the impending transition of the BSCU project from stage one and into stage two and hence my arrival at a predominantly post-structuralist tale, avoiding a biographical orientation and focusing on the organising aspects of my work – an organisational-auto-ethnographic inquiry (van Maanen, 2011; Anderson, 2006; Parry and Boyle, 2009; Doloriert and Sambrook, 2012). This will be described in more detail in Chapter Four.

This thesis fits within the 'interpretive paradigm' of the social sciences (Burrell and Morgan, 1979). "The underlying assumptions of the interpretive paradigm with regard to the ontological status of the social world reject the utility of constructing a social science which focuses upon the analysis of 'structures'. It rejects any view which attributes to the social world a reality which is independent of the minds of men. It emphasises that the social world is no more than the subjective construction of individual human beings who, through the development and use of common language and the interactions of everyday life, may create and sustain a social world of intersubjectively shared meaning. The social world is thus of an essentially intangible nature and is in a continuous process of reaffirmation or change" (1979:260). This intersubjective meaning creating becomes a central feature of this study.

From a 'process ontology' of organising, following Langley and Tsoukas (2017), this thesis is a 'prehensive' study. "Prehensive research (*inside, in the flow*) typically subscribes to a strong-process view. Researchers tend to lodge themselves in the flow of events, in real time, seeking to offer accounts of the evolving process from within, by highlighting how present events, at any time, draw on (prehend) previous ones, how meanings and experiences evolve over time and in context, and how contingencies shape the paths taken or not taken" (2017:9). This study is oriented towards both a pragmatist (Lorino, 2018) and practice theory (Sandberg and Tsoukas, 2011) approach to studying organisations. It is also worth noting for this study that Langley and Tsoukas (2017) point towards (amongst other methodologies) how an autoethnography may fit within such an approach – "A subcategory of the latter are studies in which the researcher, as well as witnessing the phenomenon unfold, takes part in it, influencing the way it develops" (2017:9).

With respect to 'project studies', and following the work of Geraldi and Söderlund (2018) this is a type 2, level 2 study, fitting within the interpretive paradigm and one which "is connected to the deep-seated interest on understanding the nature and dynamics of social systems more generally. It values applications and developments of theories and models as intellectual tools for analysing key aspects of the social world of projects. The consequence of this interest is that existing research adhering to the type 2 logic perceives projects as unique opportunities to study and to contribute to particular theoretical questions in organisation theory and general management. Projects are recognised as temporary organisations and contexts for theoretical level" (2018:60). However, I hope that, in undertaking an organisational-auto-ethnographic study I transcend the boundary into type 3 studies and in exploring organisational routine dynamics, I can somehow contribute to an understanding of the more deterministic perspective of the management of projects.

This section has positioned this thesis within three types of study so as to orient the reader towards understanding the overall approach taken. The final section of this Chapter One will explain each of the following chapters that make up this thesis.

1.5   The structure of the thesis

Section 1.2 of this introduction (Chapter One) set out the organisational phenomenon and theoretical challenge of this study, Chapter Two provides a wider contextual view of the construction industry, the infrastructure sector with specific reference to rail transport, and the organisational setting of the case study, TfL and LU.

Chapter Three reviews and synthesises the literature that creates the theoretical framework for this study. Firstly, in section 3.2, a wider theoretical framework is provided for the organisational phenomenon, described in section 1.2, positioning the issue of transitioning with incomplete information within the construction project management and organisational theory literature. This leads to section 3.3, which discusses the ontological basis of the '*incompleteness'* of our experiences in '*space and time'* from a process philosophical position. The section then presents a 'process ontology of organising' and the centrality of 'time' and 'situated action' in the organising process. It discusses the organising inquiry as being seen as dialogical in nature and so introduces the concept of the 'chronotope'.

Sections 3.4 and 3.5 review the literature on temporary organisations and organisational routines respectively. The literature on temporary organisations focuses in more detail at the concept of 'transition' and the role of organisational routines in understanding project capabilities. Section 3.5 will focus on the literature of routine dynamics and how routines from this generative perspective can help understand the concept of 'incompleteness' and how more recent thinking has moved towards the understanding of 'patterning of action' and the (re)creation of organisational routines. Chapter Three is then brought to a close with a final section that synthesises this literature and develops the research question.

Chapter Four presents the methodology. Starting with a brief summary of the overarching approach, it moves on to discuss the use of practice theory as a way of operationalising a process ontology as well as its applicability to recent theorising in project management. It then explains this study to be an abductive inquiry before moving on to an explanation of the autoethnographic methodology developed to arrive at the term organisational-auto-ethnographic, focusing on delineating between a biographical piece of work and work that is more analytically grounded (not suggesting that one is more valid than the other).

The theoretical basis for the choice of the case study is then presented, followed by an explanation of the identification and comparison of organisational routines. The final sections then describe the identification of incidents and events and how this has been adapted to incorporate the use of the 'chronotope' in helping to identify and compare the dialogical structure of organisational routines.

Chapter Five describes the data collected over the year of the autoethnography before providing an explanation of the abductive inquiry process that I went through in analysing the data. It doing so it summarises the six routines, the practical events selected for the

performative aspect of each routine and a summary of the five stage abstract event sequence of the 'recursive process model of transitioning'.

Chapter Six is a long and detailed chapter presenting the findings of the study. It is split into three sections. In the first section, in the form of the 'chronotope', a narrative of the BSCU project transition from stage one to stage two is provided, which gives greater granularity to the case study presented in Chapter One. The second section describes each organisational routine in detail, presenting firstly its emic perspective, then its practical event and performative aspect during the transition before summarising the routine in the categorical structure of the chronotope. A summary transition chronotope is then provided in tabular format. The final section of Chapter Six discusses in more detail each of the five abstract event sequence stages of the 'recursive process model of transition'.

Chapter Seven discusses the findings in relation to the theoretical framework, and proposes two areas that this study contributes to knowledge. Firstly to the theoretical area of temporary organising and our understanding of transition from a practice perspective against the deterministic life cycle model of the management of projects. Secondly to the theoretical area of organisational routine dynamics and how through understanding organisational routines as dialogical in nature we can use the chronotope as a structure for understanding the relationality of action within and between organisational routines. The final section of Chapter Eight proposes both a response to the research question and a hypothesis.

Chapter Eight then concludes the study by summarising the work, explaining the limitations of the study and presenting opportunities for future research.

2 Chapter Two - Context

2.1 Introduction

Building on Chapter One, this chapter explores the wider context of the case study, before presenting the theoretical framework in Chapter Three. I have purposefully kept this chapter brief as the wider context has breadth and depth that this chapter could not do justice to in the words available.

It firstly provides a brief synopsis of the nature of the construction industry, the role of Infrastructure as a sector within the industry and highlighting two ever-present difficulties in organising construction projects, that of the 'relational' and 'transactional' arrangements between the participants to the construction process, most specifically the client and their supply chain. Following this, it explains the context of the client organisation, TfL, and its legislative structure with the UK government, its subsidiary organisations and the governance of capital projects.

2.2 The construction industry, infrastructure and megaprojects.

This first section positions this study within the construction industry, specifically the infrastructure sector. It highlights some of the history of the development of the industry and then focuses in on a number of key areas specifically related to the capability of organisations within the sector, defining the 'relational' and 'transactional' difficulties associated with the organisation of construction projects.

Construction plays a key role within the UK economy, with 2014 figures showing that it contributed 6.5% of Gross Domestic Product (GDP) and accounted for 6.3% of the total jobs in the UK (UK government, 2016). Despite the troubles of the financial crisis in 2008, recent times have seen the output of the industry continue to grow: "Construction output grew consistently in real volume terms in every quarter of 2016, resulting in annual growth of 3.8% in 2016. This expansion in construction output comes after two years of relatively high growth in the industry, with construction output expanding by 4.4% in 2015 and 9% in 2014" (ONS, 2017:14).

Currently at the heart of the UK government's approach to construction is the Infrastructure and Projects Authority (IPA) which recognises the importance of successful project delivery, as much of the government's capital investment is delivered through projects and so it has a specific remit to act as the "…government's centre of expertise for infrastructure and major projects, created to support their successful delivery" (IPA, 2017a). It was the IPA that was accountable for delivering the government's Construction Strategy 2016-20, published in March 2016. The government

is the largest client in construction in the UK and recognises specifically the role that the Infrastructure sector plays in the long term economic future of the country. Since 2010, the UK government has sought to firm up its approach and commitment to investment in infrastructure as demonstrated through its recent publication of the National Infrastructure and Construction Pipeline (IPA, 2017c), which expects to see continued investment of over £600billion over the next 10 years. The transport sector, within which the case study in thesis is placed, accounts for approximately a third of that spend (IPA, 2017c).

The capability of government (and others) as a client, and the market as a supply chain, and the way that they engage together, has been the subject of a number of reports, led by government and industry, throughout the last century (Langford and Murray, 2003). The exception to the rule is that of the Tavistock report, which was produced outside of the construction industry's main participants. They identified that 'uncertainty' and 'interdependence' were the two key characteristics that dominated the construction process and that "These twin aspects of interdependence and uncertainty have been interpreted in terms of communication and information flow" (Tavistock Institute, 1966:18). I will return to the Tavistock report later in this chapter in section 3.2.3.

A review of the themes and drivers behind these reports (2003:5) shows a continuous focus on the relationship between the parties to the construction process, most notably between the client (buyer), and designers and contractors (suppliers) and the resulting performance of the construction process. Langford and Murray (2003) highlight that a common feature that influences these relationships is the role of procurement and the contractual relationship between the parties (2003:4). Towards the end of the last century, the Latham (1994) and Egan (1998) reports emphasised the relational characteristics between the parties, and improvements in the construction process, respectively, and could be argued to have driven much of the recent developments in the industry, as highlighted by the Wolstenholme (2010) report.

More recent publications by groups supporting the IPA, such as the UK's Institute of Civil Engineers (ICE), Client Working Group (CWG) and their report into the performance of infrastructure projects, entitled Project 13 (ICE, 2017), have continued to highlight that it is the structure of these 'transactional' relationships between the client and the supply chain that remain a key focus for enhancing the performance and capability of construction project organisations. This has been recognised by the recent publication of the IPA document 'Transforming Infrastructure Performance', where they highlight their strategy of 'Procurement for Growth', which states that "Smarter commercial relationships between clients and their suppliers help align objectives, support the

delivery of improved outcomes, boost the productivity of the industry and deliver infrastructure assets that better meet the needs of society and users. Such relationships enable a deeper engagement with the supply chain, with earlier participation in the investment lifecycle where suppliers are incentivised and rewarded for finding better solutions" (IPA, 2017b:32).

The BSCU project case study described in Chapter One is cited within this report by the IPA (IPA, 2017b:32) as an example of this procurement relationship between the client and the supply chain. This thesis is not specifically concerned with the different types of procurement models available between clients and suppliers, although that clearly forms a particular contextual environment for the project that was explained in section 1.3.2, but as I will present in Chapters Six and Seven, our understanding of some of the underlying generative mechanisms of organisational routines in temporary organisations, through the concepts of 'incompleteness' and 'transition', can help our understanding of the 'relational' and 'transactional' difficulties between clients and their supply chain.

I will return to the 'relational' and 'transactional' difficulties in section 3.2 of Chapter Three, positioning them theoretically in the construction project management literature. In the next section I will deal with the specific organisational context of Transport for London, the overall owner of the case study of this thesis described in Chapter One.

2.3   Transport for London

As described above, the transport sector accounts for approximately a third of the UK Governments spend on Infrastructure (IPA, 2017c). Accountability for the performance of the UK's transport infrastructure falls to the DfT who describe their remit as "…promoting the growth of the UK economy by planning and delivering excellent transport infrastructure; enabling people, goods and services to be transported efficiently; and supporting investment and employment" (DfT, 2017:7)

The transport sector generates approximately £74bn Gross Value Add to the UK economy for which the rail sector accounts for approximately 7%, equating to approximately 1.7 billion passenger journeys (DfT, 2017:8). The DfT receives income from passenger journeys, invests in capital assets and provides grants to local authorities who have delegated powers for operating local transport infrastructure. Transport for London (TfL) is one such authority, which was created as an organisation to run transport infrastructure in London under the 1999 Greater London Authority Act which bestows powers on the Mayor of London to create and operate TfL. TfL's remit covers all modes of transport – road, river and rail - within Greater London, most notable

of which is London Underground (LU), the largest of its subsidiary organisations. Figure 2.1 below shows in simple form the arrangement of organisations between the UK government, DfT, the Mayor of London and TfL. Since its inception, TfL has undergone various organisational changes, but for ease of explanation in this thesis, is split into rail, surface and corporate functions.
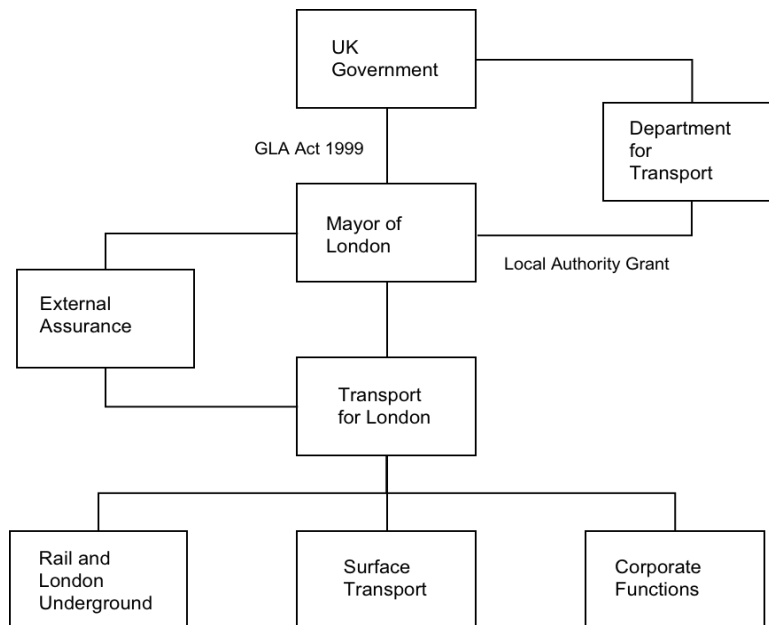
Figure 2-1- UK government - TfL Organisation Structure

Under the direction of the Mayor of London, TfL prepares a transport strategy, the most recent of which was published in 2018 (TfL, 2018a). This sets the corporate strategy for the whole of TfL, whose legislative framework is borne out of the GLA Act 1999 and establishes the Standing Orders which "…lay down the decision-making structure and proceedings, and the scheme of delegation" (TfL, 2018b).

Within this corporate governance structure, TfL have established a Programmes and Investment Committee which oversees TfL's capital investment programme. The BSCU project (the case study) formed a part of this investment programme and was subject to the authorities of this committee, as set out in the Standing Orders. One particular aspect of this investment programme authority process was the establishment of an oversight committee entitled the Independent Investment Programme Advisory Group (IIPAG). The innovative procurement route undertaken by the BSCU project was subject to the review and approval of IIPAG during 2012/13. The organisational structure of the BSCU project and its relation to London Underground and IIPAG is presented in figure 2.2 below. This is presented for indicative purposes only and the formal and informal relationships are indicated by simple lines of secondary and primary communication. However, such a representation shows that beyond the dyadic contractual relationship

between the client and the contractor, their existed an inter-organisational context that brings complexity to the project in terms of task interdependency and hence organisational routines.

The dotted red line shows the two organisations that were the subject of this study.
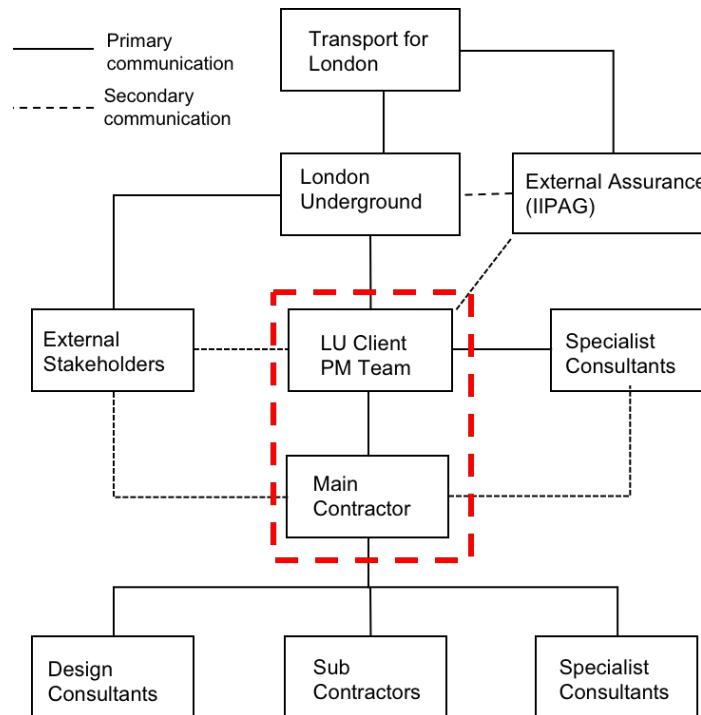
Figure 2-2 - BSCU Project - London Underground organisation structure

Connecting these corporate governance structures from the TfL legislative framework was the London Underground project management manual, entitled Pathway. I had authored the second edition of the project management manual between 2009 and 2010 while working in the LU Capital Programmes Directorate Project Management Office.

The Pathway manual incorporated a number of individual handbooks that set out the LU corporate governance arrangements for the management of capital projects and are aligned with Standing Orders. Due to the complex nature of managing capital projects within the regulated railway industry, these handbooks were extensive in number and it is not the intent within this chapter to describe the Pathway manual in detail. But most notably within this suite of handbooks was the Investment Governance handbook. It is this handbook that sets of the levels of authority delegated down through the organisation, as granted through the Standing Orders. These delegated authorities relate to Finance, Project, Procurement and Land. It also establishes the level of Investment Assurance to be undertaken on any given project, determined by its size, scale and value.

It is this Investment Assurance process, that establishes the stage gate review, the 'organisational routine', needed to be undertaken as a project transitions from one life cycle stage to the next. "This process provides confidence that TfL processes and policies defined within Pathway have been followed. A Stage Gate is required to move from one Pathway stage to another (including the final, Closure, stage). Stage Gates are evidenced by Stage Gate Certificates, which must be submitted when applying for authority as proof of investment assurance" (TfL, 2014:11).

It was this Investment Governance process that the BSCU project was subject to as it sought to gain full sanction from stage one to stage two of the project, as explained in Chapter One. In section 3.2 of Chapter Three, the theoretical framework for understanding this routine within construction project management will be presented, and the study findings in Chapter Six will discuss the specific actions undertaken by the project team within the transition routines that were identified.

2.4   Summary

This Chapter Two has focused on the wider industry and organisational context within which this study took place. Firstly, it presented the contribution of the construction industry, and infrastructure in particular, to the UK economy. It then summarised at a high level, from industry reports over the last century and up to the present day, the 'relational' and 'transactional' difficulties that the industry exhibits, and government and industry strategies to tackle these and how the BSCU project formed an exemplar project within those future strategies.

It then provided an explanation of the organisational context, describing the role of the UK Government and TfL in managing transport in Greater London. It explained the Legislative Framework of TfL and its subsequent relationship with London Underground. The final section then looked at how this legislative framework flowed down to the governance of capital projects within LU, the project management manual, and specifically the Investment Governance handbook and the organisational routine for managing stage gate approvals.

The following Chapter Three will move on to explain the theoretical framework within which this study will be conducted and will present the research question resulting from this review of the literature.

3   Chapter Three – Theoretical framework

3.1   Introduction

Chapter One set out the organisational phenomenon and the theoretical challenge to the underlying temporal assumptions of a theory of temporary organisations (Lundin and Söderholm, 1995) and a new theory of organisational routines (Feldman and Pentland, 2003), followed by a brief description of the BSCU project case study. In Chapter Two, the wider context of the construction industry, the infrastructure sector, rail transport and the organisational setting of the case study were explained, including the legislative framework that governed the process of transitioning between life cycle stages.

This Chapter Three presents the theoretical framework for this study in four separate sections and is written in the third person. The first section, 3.2, sets out the theoretical framework for the organising phenomenon and its context, as described in Chapters One and Two. It builds on and defines the transactional and relational difficulties of organising as understood within the construction project management literature, and in relation to the organisational routine of stage gates and incomplete information.

Section 3.3 presents the ontological position of this study, specifically in respect of incompleteness and its relationship with human perceptions of space and time. This is supported with social science and organisational theory literature that has applied this philosophical stance in understanding organisations temporally, drawing on the dialogical nature of temporal and situated action. This leads to more recent work that has applied literary theory to understanding organisations and which provides the 'chronotope' as a categorical structure for understanding the relativity of space-time in organising.

The third section, section 3.4, reviews in more detail the concept of transition as understood within the literature on temporary organisations and seeks to understand the nature of action as dialogical in the context of the perception of project participants and the dialogical nature of temporal and situated action explained in section 3.3. It then looks at organisational routines in project based organisations from the perspective of organisational capability.

This leads to the fourth section, section 3.5, on organisational routines. This section looks at the concept of an organisational routine and explores more recent understanding of routines as generative mechanisms that influence both stability and change in an organisation, focusing on more recent literature that seeks to understand the internal 'patterning of action' within and between routines and how this is relevant to this study. The fifth and final section, 3.6, synthesises the literature from the four previous sections and presents the research question.

3.2   Wider theoretical framework

This section 3.2 is divided into three sub-sections. The first sub-section will position the theoretical framework within the behavioural school of organisational theory. The following section will look at this from a project management perspective, focusing on the life cycle model of the temporary organisation. The final sub-section explores the role of organisational routines in the stage gate process and what this means with respect to the organisational phenomenon and challenge to theoretical temporal assumptions described in Chapter One.

3.2.1   Organisational theory perspective

In this thesis, organisational theory (OT) is understood as a social science (Tsoukas and Knudsen, 2005) and for this study as an 'interpretive science' (Hatch and Yanow, 2005). In respect of OT, it is primarily concerned with the behaviour of organisations (March and Simon, 1958; Cyert and March, 1963; Mintzberg, 1979; Galbraith, 1973), more specifically the 'actions' associated with the processing of information to reduce uncertainty, which is found in the foundational work on organisational routines (Cyert and March, 1963; Nelson and Winter, 1982). This will be explored further in section 3.5 of this Chapter Three.

One branch of research from this early behavioural work looked at economic theories of organisation (Williamson, 1979; Jensen and Meckling, 1976). It is not suggested here that these do not provide valuable insight into the organisation of construction projects (Eccles, 1981; Winch, 2001, 2010, 2015) or the nature of the project as a temporary organisation (Turner and Muller, 2003), nor that this thesis may sometimes drift across 'grey' theoretical boundaries.

Yet following the work of Perrow (1986), who did not reject economic theories of organisation, this thesis frames the contribution from economic theories in relation to the differing roles and structures of markets and hierarchies in forms of organising, as being limited in understanding the behaviour of organisations on the ground, suggesting "…that we might abandon the distinction for some purposes and seek other ways to characterize interdependent behaviour within and between organizations, or even to attack, once again, the recalcitrant conceptual problem of boundaries - what is the boundary between a supplier and a customer, the government and a firm, or between two industries." (1986:39)

While this work is some thirty years old, it speaks to the "two fundamental and opposing requirements: the division of labour into various tasks to be performed and the coordination of these tasks to accomplish the activity" (Mintzberg, 1979:2). Söderlund (2012), building on the work of Grant (1996) and Roberts (2004), calls these the

problems of '*cooperation*' and '*coordination*'. "The problem of cooperation originates from the fact that individuals and actors have conflicting goals and behave opportunistically, whereas the problem of coordination stems from the complexity of the task and the necessity to communicate and synchronise activities to achieve action efficiencies" (Söderlund 2012:46).

This is not least the case in organising the construction process and a comparison is made here between the 'relational' [coordination] and 'transactional' [cooperation] difficulties identified from the construction industry reports discussed in Chapter Two. It could be argued that these difficulties create conflicting organisational goals and a form of 'pervasive uncertainty' in temporary organisations in construction. Organisational routines have been suggested as a way of reducing this type of uncertainty (Becker and Knudsen, 2008) and as a way of balancing conflicting organisational goals (Salvato and Rerup, 2017). This thesis draws on Becker and Knudsen (2008) to define pervasive uncertainty as a situation where further information will not reduce the level of uncertainty at a point in time.

The following section positions the project management theoretical perspective within the OT perspective just described, to further develop the theoretical understanding of the two difficulties in relation to the organisational phenomenon described in Chapter One.

3.2.2   Project management theory perspective

Söderlund (2012) identifies seven schools of thought in relation to research in project management. This thesis is concerned with the behavioural school, which Söderlund (2012) describes as one which fits within OT and is concerned with the processes of organisation, asking how projects evolve and behave in shaping the project organisation (2012:41).

Following Söderlunds' (2012) typologies of projects, this study is oriented towards large or mega, inter-organisational construction projects (Jones and Lichtenstein, 2008; Miller and Lessard, 2001; Flyvbjerg, 2014; Davies et, al., 2017) between public client infrastructure owners and private construction contractors, both of which are commonly termed as project-based organisations (Hobday, 2000; Whitely, 2006; Davies and Hobday, 2005) and are characterised by the embeddedness between the temporary and the permanent (Manning, 2008; Sydow et, al., 2004), high levels of uncertainty (De Meyer et, al,. 2002) and the need to process information over time, through transactions in the market place, to reduce that uncertainty (Winch, 2010; Pryke, 2017).

These types of inter-organisational arrangements have more recently become the focus of research in project management. Sydow and Braun (2018) refer to these as IOP's – interorganisational projects. In seeking to develop theory in this area they recognise the

temporary nature of these arrangements and suggest that they "do not necessarily operate on a repeated basis or with the expectation of a likely repetition…an IOP may therefore potentially have neither a past nor a future beyond the present collaboration, although many, if not most, do" (2018:7). Proposing a more process and practice oriented perspective to IOP's, the paper highlights the potential role that organisational routines may play in stabilising the actions of actors within inter-organisational arrangements (2018:7).

What theoretically binds these temporary (inter)organisational arrangements together is what Söderlund (2012) explains as the 'project life cycle': "One of the most salient feature of projects is their organizational dynamics. Projects are born – they are created by man and they are designed to dissolve. The matter of birth and death of projects has accordingly been a core element of project management since the introduction of the project life cycle" (2012:49). It is this life cycle that differentiates the project organisational form over other forms of organisation: "*All projects, no matter how complex or trivial, large or small, follow this development sequence*" (Morris, 2013:13 [emphasis in original]).

Söderlund (2012) highlights how this feature of projects led to theories predominantly in the behaviour school, related to how projects function as temporary organisational forms (Gersick, 1988; Goodman and Goodman, 1976; Lundin and Söderholm, 1995) and has been adopted by professional bodies as the way of governing the project process, as described by the UK's Association for Project Management (APM) in their Body of Knowledge (BoK): "A life cycle defines the inter-related phases of a project, programme or portfolio and provides a structure for governing the progression of the work" (APM, 2012:26). The nature of the temporary organisation will be looked at in more detail in section 3.4 below.

The life cycle model could be argued to have been drawn from what has been referred to as the hard paradigm of project management (Pollack, 2007; Smyth and Morris, 2007). Such a paradigm has led to the development of the disciplines' bodies of knowledge, notably the UK's APM and American Project Management Institute (PMI), which has been argued to have focused primarily on developing a deterministic, i.e. routinised and repetitive pattern of work, in order to be able to provide for the ex-ante planning and control of the tasks and teams of project organisations. "Attempts by BOK's to systematise the knowledge required to manage projects are largely based on the underlying assumption that there are identifiable patterns and generalisations, from which rules, controls and guidelines for best practice can be established that are replicable, even if not in absolutely every circumstance" (Smyth and Morris, 2007:426).

Winter et, al., (2006) propose that the life cycle model, while not rejected, has potentially constrained the understanding of projects, particularly from a 'process ontology', by becoming accepted as the actual way that projects behave. They suggest that a move towards a process ontology offers an opportunity to challenge these assumptions and Chapter One presented challenging the conflicting underlying temporal assumptions of a theory of the temporary organisation (Lundin and Söderholm, 1995) and organisational routines (Feldman and Pentland, 2003) as an opportunity to do this.

The following section explores in more detail how we might understand organisational routines and the life cycle stages in the typology of construction project organisations presented in this chapter.

3.2.3 Life cycle stages and organisational routines

While this life cycle model of predefined dates can take on a number of forms, a governance structure that follows the traditional life cycle is expected to be able to monitor the progression of work through what are termed stage gates, where progress against predefined project or individual stage goals can be assessed before gaining sanction to proceed to the next stage. One of the key challenges around designing organisations around the life cycle model, is being able to balance the need to measure performance against the need to generate knowledge, specifically where there exists uncertainty and the incompleteness of information in developing the product for which the temporary organisation is established (Lindkvist et, al., 1998). This then draws focus to the different routines that an organisation may employ in this movement across stage gates.

Winch (2010) terms this as 'gating the process', and suggests that this is an area where project organisations have their own organisational routines, such as that within TfL and described in Chapter Two. "In effect, these routines are the measurement points in the overall project level control loop and are known as stage gates which are predefined review and decision points in the project information flow where progress is assessed against predetermined criteria by those actors who can contribute positively to such an assessment" (Winch, 2010:202). Winch (2010) draws on the work of Cooper who has more recently emphasised that stage gates have often been misinterpreted to mean the prescription of a linear process (2008), yet is keen to emphasise that they are designed to support an iterative and often non-sequential process.

In exploring this notion of 'gating the process', specifically in relation to large engineering or mega projects, these types of projects have specific characteristics (Miller and Lessard, 2001; Flyvbjerg, 2014; Davies et, al., 2017), but most notably it is the issue of their 'front end' that influences their ongoing capability (Morris and Hough, 1987; Samset

and Volden, 2016) and more specifically the point of sanction to move from the front end into execution (Miller and Lessard, 2001; Miller and Hobbs, 2005). Morris (1997 and 2013), building on the earlier work, developed the term the 'Management of Projects' (Morris, 1997). This work greatly influenced thinking with respect to the bodies of knowledge of both the APM and the American based Project Management Institute (PMI). It also led to work researching the definition of the 'front end' of projects (Edkins et, al., 2013), what it means for project governance and management (Samset and Volden, 2016), specifically large engineering projects (Miller and Lessard, 2001).

Morris (2013) continued to highlight the challenges of this front end and in understanding the specific 'gate' when this 'definition' stage comes to an end and the project receives full sanction to enter into the 'delivery' phase. As Morris points out (2013:164) this may be a number of different stages, depending on the type of project, nevertheless, in large or mega projects, this main transition from the definition stage to the delivery stage has been identified as an important step in the life cycle, as this quotation from Miller and Hobbs (2005) highlights: "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" (2005:45).

Figure 3.1 below draws on the work of Morris (2013) and Miller and Hobbs (2005) to present this in graphical form. The figure shows the two main life cycle stages of definition and delivery and the sub stages within them, with the dotted box showing the area of transition from the front end to execution. It is this transition that is the subject of this study, as described in the brief case study narrative of the BSCU project in Chapter One.
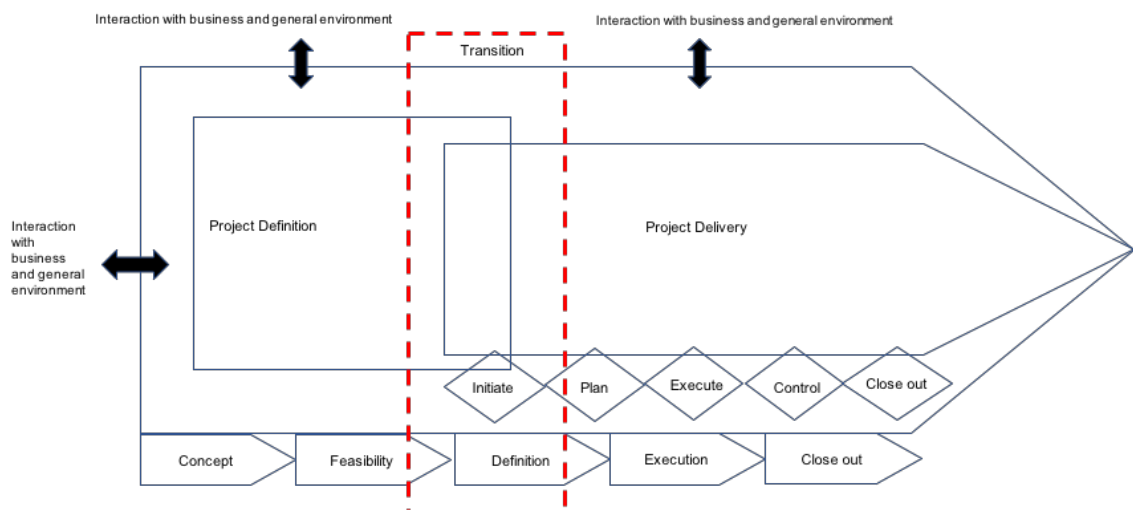
Figure 3-1- Transition from definition to delivery. Adapted from Morris (2013)

Jones and Lichtenstein (2008) reference similar literature in discussing inter-organisational relationships, presenting the concepts of 'temporal embeddedness' - focused on coordinating the efforts of project participants, and 'social embeddedness' - focused on the relations between participants, as a way for projects to cope with what they call demand and transactional uncertainty. They highlight that in large engineering projects the lack of success in achieving temporal embeddedness and that it is the transition from the front end of the project into the execution phase where "the temporal embeddedness of the project shifts dramatically …" (2008:248). They suggest that this typology of project struggles with the ability to create social embeddedness as participants are often conflicted with loyalty between firm and project. This theoretical frame, spatial and temporal embeddedness, will be dealt with ontologically (Rescher, 1996) in section 3.3 below.

It is at this stage that the challenge to the underlying assumptions of a theory of temporary organisations (Lundin and Söderholm, 1995) and a new theory of organisational routines (Feldman and Pentland, 2003) emerges. This is in the notion that the temporary organisation has developed organisational routines (patterns of action) during the front end of the project (Eriksson, 2015) and that these routines create project capabilities and inform organisational design (Davies and Brady, 2016; Eriksson and Kadefors), and so creating 'perceptions' of organisational stability through the 'ongoing' action of processing information and reducing uncertainty. Yet in challenging the underlying temporal assumption of these two theories (Lundin and Söderholm, 1995; Feldman and Pentland, 2003), it could be argued that closing down this stage and developing a new stage in the organisation, while theoretically creating a measure of performance control, momentarily disrupts the patterns of action through its dramatic spatial and temporal shift (Jones and Lichtenstein, 2008; Miller and Hobbs, 2005; Miller and Lessard, 2001).

To explore this further and returning to Winch (2010), this 'transition' from stage to stage, and particularly the formal sanction to move from one stage to the next, is governed by a predetermined set of outputs. It is around this that prescriptive and deterministic models of organisational governance are designed at both discipline and organisational level, where traditionally there is an established stage gate, governance and assurance process, predominantly led by the production of a checklist of items (mainly physical documents) that have to be produced for the end of stage (i.e. a design, a risk register, etc.) in order for the project to be granted approval to proceed, or not. Such an assurance

process existed within TfL and governed the BSCU project transition from stage one to stage two, as explained in Chapter Two.

Winch (2010) made reference to the stage gates being points in the 'information flow' and indeed Winch, building on the work of Galbraith (1973) and the behavioural school of thinkers discussed above, sees project organisations as information processing systems (Winch, 2015). Figure 3.2 below adapts the model by Winch (2010) and shows the potential levels of organisational uncertainty, relative to the availability of information at the stage of transition between definition and delivery shown in figure 3.1 above
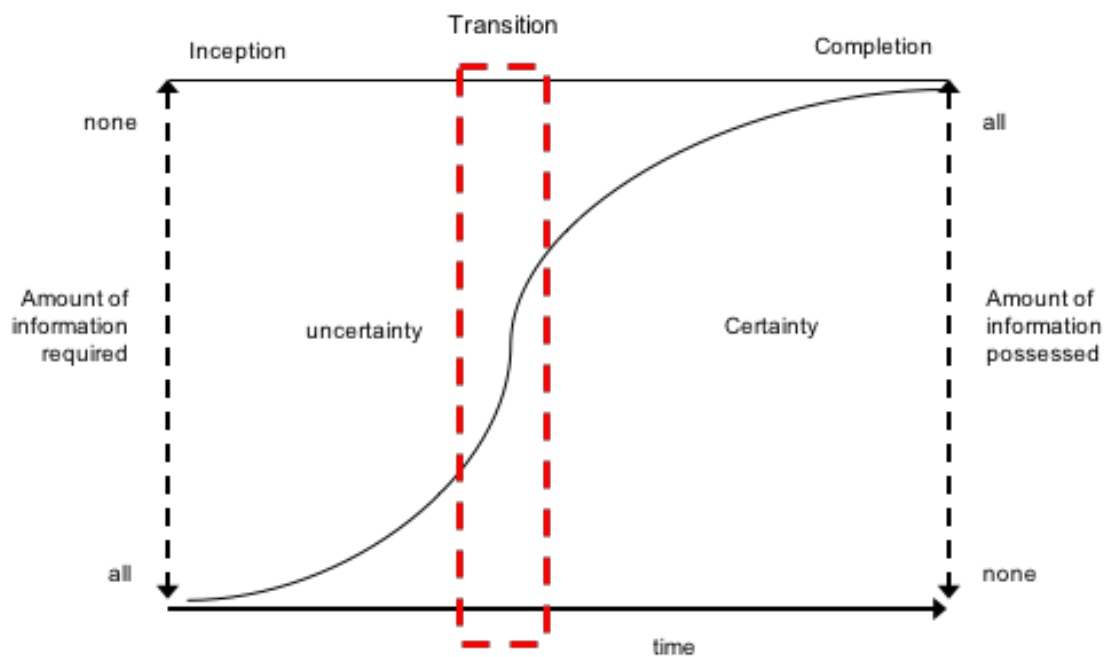
Figure 3-2 - Transition, information and uncertainty. Adapted from Winch (2010)

The incompleteness of this information is something that Pryke (2017), who in developing his theory of social networks in project-based organisations, draws our attention to in relation to the work of the Tavistock Institute (1996) in dealing with 'uncertainty' and 'interdependence'. Pryke (2017), while focusing more specifically on the role of the delegation of work through contracts within the construction industry, highlights the notion of 'incompleteness' as projects transition through the life cycle.

While from the hard paradigm perspective (Pollack, 2007) we can specify, through contracts and governance systems the specific outputs at the end of each stage, what both Winch (2010) and Pryke (2017) argue, albeit from different theoretical positions, is that at each stage in the life cycle, there is a necessary level of incompleteness in information. This notion of necessary incompleteness will be explored ontologically in section 3.3 and then further in section 3.5 with regards to organisational routines.

It will be presented in section 3.4 that the concept of 'transition' and the dramatic shift in temporal and social embeddedness (Jones and Lichtenstein, 2008) is an under theorised area in the literature on temporary organisations (Bakker, 2010; Jacobsson, et, al., 2013). So while we understand different life cycle models may be presented for different project types (Lindkvist et, al., 1998; Morris, 2013) and that organisations have developed organisational routine(s) for stage gate assurance (Winch, 2010), it could be suggested that we understand less about how organisational routines may, or may not, get transformed across the stage gate boundary when there is uncertainty and incompleteness of information (Winch, 2010; Pryke, 2017). More specifically how this uncertainty and incompleteness may influence the 'relational' (coordination) and 'transactional' (cooperation) difficulties (Söderlund, 2012) of the construction organising process and so the capability of temporary organisations (Davies and Brady, 2016).

3.2.4   Summary

This section has sought to theoretically frame the organisational phenomenon described in Chapter One and the wider context in Chapter Two, firstly by positioning the study in the behavioural school of organisational theory. Secondly, it looked at the life cycle model of the temporary organisation and the role of organisational routines in moving from one life cycle stage to the next. It then used the challenge to the underlying temporal assumptions described in Chapter One, to suggest that the stage gate process created a break in the patterning of action and thus could potentially disrupt the ongoing capability of the temporary organisation.

Before moving on to explore in further detail the literature on temporary organisations and organisational routines, the following section will build on this wider theoretical perspective and present the ontological position of the study.

3.3   Process philosophy and organising

3.3.1   Introduction

The ontological position of this thesis is one not selected solely for the purposes of this thesis, but one which was a discovery through this doctoral journey as it resonated strongly with the challenges of managing large engineering and construction projects. Firstly, a short introduction will present two key aspects of a process ontology - the space-time nature of processes and the incompleteness in our cognitive abilities (Rescher, 1996). Following this, a short explanation of a process ontology as it relates to organising more generally and project organising in particular is provided. With its focus on the centrality of 'time' and 'temporal' aspects of organising, a very short discussion of the ontology of time in organisations is given, before discussing the role of agency, and its 'spatiotemporal nature'. This leads to understanding agency as being 'relational' and 'dialogical' and so the following section presents the basic ontological and epistemological underpinnings of dialogism, specifically the space-time categorical structure of the 'chronotope' as applied to the organising inquiry, as it is this that is used to help explain the internal dialogical structure of organisational routines and which is explained in more detail in the methodology in Chapter Four.

3.3.2   Process philosophy

In section 1.2.2 of Chapter One, 'action' and 'time' were presented as a shared feature of the temporal paradox of newness and repetition in temporary organising (Lundin and Söderholm, 1995; Feldman and Pentland, 2003). This section approaches an understanding of action and time from a process ontology, exploring two specific aspects that help understand the concept of transitioning with incomplete information across pre-defined time boundaries in a project life cycle. Firstly, it is the relativity of space and time in understanding the manifold nature of processes and their movement through time, and secondly, it the understanding of the incompleteness of our cognitive capacity.

What defines process philosophy is the understanding that process pervades everything that exists in nature, not just the origin of things but their ongoingness (Rescher, 1996:8). A process philosophy is therefore concerned with 'activity' over 'time' as opposed to 'things' as static entities. It focuses on events, events being where "a long and complicated process is involved, a sequence of activities and transactions that in each case constitutes an elaborate story of interconnected developments" (1996:29). These processes, or sequences of activities, are a 'family of occurrences' that have causal or functional linkages that are spatial and temporal in nature, in the sense that they exist in the present "with tentacles reaching into the past and the future. A natural process is not a mere collection of sequential presents but inherently exhibits a '*structure of*

spatiotemporal continuity'. A natural process by its very nature passes on to the future a construction made from the materials of the past." (1996:39 – emphasis added). The understanding of this spatiotemporal structure of processes is one which does not see them as fixed boundaries but relative to the space-time structures within which action occurs (1996:95).

This space-time feature of understanding processes, their '*structure of spatiotemporal continuity',* will be developed further in this section when looking at a process ontology of organising (Tsoukas and Chia, 2002) and the dialogical nature of action (Emirbyer and Mische, 1998). It also acts as the ontological foundation for understanding the centrality of action in the concept of transition (Lundin and Söderholm, 1995) and this will be discussed in section 3.4 below.

In understanding our cognitive abilities, Rescher (1996) continues to work from the position that traditional western philosophy has sought to stabilise knowledge, and so the truth, through the stabilisation of things as entities (1996:124). A process philosophy, with its temporal 'ongoingness of occurrences' does not see knowledge as fixed, but as something that continuously emerges and as such, at the time of the occurrence, our knowledge of, or statements about, any particular future occurrence (or the ceasing of a past occurrence) are temporarily suspended in a "bivalence-violating situation in which the future oriented statements at issue are neither true nor false" (1996:126). The truth or falsity of the statement arrives only through the passage of time and the arrival of what were future contingent actions and so the demise of this occurrence into the past, which Rescher terms a 'transitional truth indeterminacy'.

Rescher (1996) explains the transiency of our cognitive abilities and how through experience, real things manifest themselves. However, he points out that real things have properties that always lie beyond our ability to experience them in the flow of time, suggesting an incompleteness of our knowledge of the real. Rescher therefore suggests that "In view of the cognitive opacity of the real, we always do well to refrain from pretending to a cognitive monopoly or cognitive finality. This recognition of '*incomplete information*' [emphasis added] is inherent in the very nature of our conception of a 'real thing'. It is a crucial facet of our epistemic stance toward the real world to recognise that every bit of it has features lying beyond our present cognitive reach – at *any* 'present' whatsoever". (1996:131)

This incompleteness of our knowledge in the flow of time is explored further in this section 3.3 when looking at the dialogical nature of organising (Shotter, 2008) and in section 3.5 on organisational routines where the concept of an organisational routine is

discussed as being evolutionary in nature and the impact this has on agency and artefacts.

This section has presented two key aspects of a process philosophy to provide the ontological basis for theoretically exploring the incompleteness of information. Firstly, it was in understanding the real world made up not of entities, but from activities over time that have a '*structural spatiotemporal continuity'*. It then set out the onto-epistemological position, being that of a transient truth-indeterminacy whereby in our search for understanding of the real, the continuity of 'incomplete information' within those activities over time becomes central to knowledge of the world from a process philosophy. Such an ontological position accords with and builds on the search for alternative images of the life cycle model, as espoused by Winter, et al. (2006) and will be discussed further in section 3.3.4 below.

The following section moves on to discuss a process philosophy in its application to understanding 'organising', before visiting the spatiotemporal and dialogical nature of organising.

3.3.3   A process ontology of organising

The previous section presented two key features of process metaphysics, that of the manifold nature of processes creating a structure of spatiotemporal continuity and the incompleteness of information in our understanding of our experiences of the real world (Rescher, 1996). This section looks at these aspects from the perspective of organisational theory, focusing on the ontological prioritisation of change, the role of time and the situated nature of our perceptions of time.

The ontology of the process theory of organisation is set out by Tsoukas and Chia (2002) who suggest that the full benefits of the work by such authors as Weick (1979), Orlikowski (1996) and Feldman (2000), cannot be achieved without a full reversal of the "ontological priority accorded to organisation and change. Change must not be thought of as a property of organisation. Rather, organisation must be understood as an emergent property of change. Change is ontologically prior to organisation – it is the condition of possibility for organisation…Wishing to highlight the pervasiveness of change in organisations, we talk about organisational becoming" (Tsoukas and Chia, 2002:570). They argue that this change is "inherent in human action" (Tsoukas and Chia, 2002:570). As we make sense of the world around us in our attempts to understand the incompleteness of our experiences (Rescher, 1996), we interact with each other and new experiences materialise from that interaction that changes our habits and beliefs, in a way that makes the world coherent.

Langley et. al., (2013) highlight the centrality and importance of time in theorising about organisational change through a process lens. "Process research, thus, focuses empirically on evolving phenomena and it draws on theorizing that explicitly incorporates temporal progressions of activities as elements of explanation and understanding…" (Langley, et. al., 2013:1). They are critical of much management research that excludes time despite its central role in human affairs. "By removing time from theoretical accounts, variance theorising abstracts away from the temporal flow of much of organisational life…The particulars that make knowledge actionable – what to do, at what point in time, in what context – are not included in the timeless propositional statements typically generated in variance theorising" (Langley et, al., 2013:4).

While a process view of organizing has been built from a number of sources (Langley and Tsoukas, 2010), Hernes (2014) has attempted to create a theory of process organisation in which time and temporality are central. But Hernes makes it clear that this focus on temporality is not at the rejection of spatial qualities of the events that actors engage in and reflect upon, but that it is the temporality that makes them 'spatial'. "To take a temporal view does not mean to reject the idea of organisations as spatial phenomena. The point is that they are made spatial in time, meaning that spatiality is shaped by the passing of time" (2014:76). In this sense, as actions occur in time, reach closure and are reflected upon, they become events with spatio-temporal qualities in the same way the action itself happened in a space at a moment in time. Time therefore cannot be considered alone, but has to be considered spatially as well, hence Reschers' (1996) focus on the '*structure of spatiotemporal continuity'.*

This section has briefly highlighted how the application of a process ontology has been applied to organisational theory to arrive at an understanding of 'organising' as an outcome of change, where human actions are 'situated' and occur in the 'flow of time'. Such an approach has led to much new work in understanding organisations from a process ontology (Langley and Tsoukas, 2017). Before exploring further this temporal and spatial understanding of organising in more detail, this ontology as applied to the theory of project organisations is discussed, specifically the project life cycle as an organising construct of time and understanding its situated nature.

3.3.4   A process ontology of project organising

With the many different theories of project management (Söderlund, 2012; Turner, Pinto and Bredillet, 2012), the boundaries of different ontological, epistemological and methodological approaches can become blurred (Smyth and Morris, 2007). As a discipline, it has been grappling with a mixed ontological position where Morris (2013)

asks if it is conceivable that project organisations can possess both a 'becoming' and a 'being' ontology (Morris, 2013).

Gauthier and Ika (2012) provide a historical synopsis of the conceptual and ontological position of project management to develop an ontological framework for research into projects. The paper provides a detailed discussion of the pre-modern Parmedian 'being' ontology and the Heraclitus 'becoming' ontology and how modern project ontologies were dominated by the realist and nominalist positions - this thesis refers to the work of Burrell and Morgan (1979) for a definition of these terms. Gauthier and Ika (2012) use a construction project as a classic example of the debate and how these approaches have come under more recent criticism (Blomquist and Lundin, 2010; Hodgson and Cicmil, 2006; Linehan and Kavanagh, 2004; Packendorff, 1995). They suggest a post-modern virtualist ontology is more aligned with the theory of the temporary organisation (Lundin and Söderholm, 1995) and the making projects critical school of thought (Cicmil and Hodgson, 2006) where the project is a construction not a discovery.

Similar to the discussion by Hernes (2014) that a temporal perspective is not at the rejection of space, Lundin and Steinthórsson (2003) are somewhat critical of the process ontology's prevalence of focus on time, and that while relevant, closes our eyes to an organisations' embeddedness within a context. They propose extending the river metaphor of Heraclitus to the wider contextual environment within which the river sits to provide a broader understanding of an organisations context and how the relationship between the temporary organisation and the permanent organisation works through the use of a becoming ontology.

Returning to the discussion in section 3.2 and the call for alternative images of the life cycle model, Winter et, al. (2006), citing Linehan and Kavanagh (2004), suggest that adopting a process ontology recognises "firstly, the need to challenge the assumption that the rational deterministic model is an all-encompassing model of projects and project management – as many of the textbooks seem to portray – and secondly, the (often unexamined) assumption that the deterministic model is the actual reality, in other words, the map is the terrain" (2006:643). This is explored further in section 3.4 below

This section has briefly discussed how theories in project organising have moved towards a process ontology, with a caution not to ignore the temporal aspects of the project context. This will be developed further from a space-time perspective of agency in section 3.3.6 below, again showing that context also has its own temporal frame. Before that, as time is a central feature of both a process ontology and the project life cycle, the role of time from a process ontology and practice epistemology is briefly discussed..

3.3.5   The ontology of time in the organising process

The centrality of time in a process ontology of organising has moved our thinking of how time is treated in organisations and this has relevance to the search for a wider understanding of the life cycle model (Winter et, al., 2006; Linehan and Kavanagh, 2004). The use of time in early organisation studies was reduced to a static clock time in the interests of understanding the efficiency of production in organisations, dating right back to the work of Taylor (1911). Chia (2002) talks about objective clock time as the 'central epistemological pillar' around which our modern-day conceptions of time are built. In more recent times though, time has taken on a different meaning and come to be seen as something that is also socially constructed (Chia, 2002; Bluedorn and Denhardt, 1988).

Time therefore has come to be understood in a number of different ways (Ancona et, al., 2001). Hernes et, al. (2013), in their introduction to the special issue in the Scandinavian Journal of Management build on the work of Ancona et, al. (2001) by offering a more process view of time in three particular ways, 1) that time is a feature of management experienced by practitioners and not just a research lens; 2) beyond just conceptions of time, temporality from a process ontology is about being in time; 3) causality is understood through time by practitioners, ascribing meaning to the past and the future.

Orlikowski and Yates (2002) espouse a practice based view of time in the organising process, which emphasises the situated nature of the experience of time where 'temporal structuring' by practitioners incorporates both objective and subjective time and as such is an important feature of understanding the life cycle model of temporary organisations. "The notion of temporal structuring focuses attention on what people actually do temporally in their practices, and how in such ongoing and situated activity they shape and are shaped by particular temporal structures" (2002:696). Their explanatory table is provided below in table 3.1.

Orlikowski and Yates (2002) do not call for distinct methodologies or any kind of paradigm shift, but suggest that a practice based view of time enables us to explore the relational influence of time in the organising process by developing research questions in a variety of ways: "While a focus on either objective time or subjective times may offer important analytic advantages to researchers, both tend to neglect important aspects of temporal structuring in practice. While an objective view overlooks the role of human action in shaping people's experiences of time in organizations, a subjective view downplays how human action is shaped by objectified expectations of time in organizations. In contrast, a practice-based perspective seeks to show how the recurrent practices of social actors shape temporal structures that are experienced as "time" in

everyday life, and how these practices in turn are shaped by previously established temporal structures that influence expectations of time in organizations" (2002:695).

	Objective	Subjective	Practice-Based
View of time	Exists independently of human action; exogenous, absolute.	Socially constructed by human action; culturally relative.	Constituted by, as well as constituting ongoing, human action.
Experience of time	Time determines or powerfully constrains people's actions through their use of standardized time-measurement systems such as clocks and calendars.	Time is experienced through the interpretive processes of people who create meaningful temporal notions such as events, cycles, routines, and rites of passage.	Time is realized through people's recurrent practices that (re)produce temporal structures (e.g., tenure clocks, project schedules) that are both the medium and outcome of those practices.
Role of actors in temporal change	Actors cannot change time; they can only adapt their actions to respond differently to its apparent inexorability and predictability, e.g., speeding up, slowing down, or reprioritizing their activities.	Actors can change their cultural interpretations of time, and thus their experiences of temporal notions such as events, cycles, and routines, e.g., designating a "snow day," "quiet time," "fast track," or "mommy track."	Actors are knowledgeable agents who reflexively monitor their action, and in doing so may, in certain conditions, enact (explicitly or implicitly) new or modified temporal structures in their practices, e.g., adopting a new fiscal year or "casual Fridays."

Table 3-1 - Different Perspectives on Time in Organizations – Taken from Orlikowski and Yates (2002:689)

This work is important for this study because time is a 'basic' concept in a theory of the temporary organisation (Lundin and Söderholm, 1995), creating the 'objective' time bound project life cycle (Söderlund, 2012). But recent literature shows that the typology of projects associated with the case study in this thesis, exhibit multiple temporalities

because of their longevity, as Brookes et, al. (2017) note, "instead of a short-duration activity within a fixed organizational context, these projects involve multiple temporalities, with a range of more and less temporary forms of organizing combining in the process of enactment" (Brookes et, al., 2017:1221). This suggests that these types of projects exhibit quite complex forms of 'temporal structuring', not least when different 'subjective' temporalities of participants, leaving or joining the project, meet at the 'objective' predetermined transition time boundary, between project stages.

This section has built on the discussion of process metaphysics (Rescher, 1999) and a process ontology of organising (Tsoukas and Chia, 2002; Gauthier and Ika, 2012), briefly discussing how time is understood in organisations and looking at how merging the two different conceptions of objective and subjective time can help understand the actions of participants in moving across a time bound stage of a project life cycle (Orlikowski and Yates, 2002). The following section explores further the notion of participants acting temporally in a particular situation and how they make sense of this organising process, as this is the focus of an interpretive study in the social sciences (Burrell and Morgan, 1979:260).

3.3.6   Spatiotemporal agency

This section extends the understanding of the situated and temporal aspects of 'agency' through the work of Emirbayer and Mische (1998), where "…agency is always a dialogical process by and through which actors immersed in temporal passage engage with others within collectively organized contexts of action" (Emirbayer and Mische, 1998:973). And so, following that, section 3.3.7 draws on Mikhail Bakhtin's 'dialogism' (Holquist, 2002) which has been more recently understood as offering a lens through which to understand the dialogical aspects of organising from a process ontology (Cunliffe et, al., 2014) and a pragmatist perspective (Lorino, 2018).

Emirbyer and Mische (1998), are critical of the limitations of individual choice within the rational choice and normative schools of thought on agency suggesting that the bracketing out of actors embedded and subjective temporality "does not allow us to understand the interpretive processes whereby choices are imagined, evaluated, and contingently reconstructed by actors in *ongoing dialogue with unfolding situations*" (1989:966 [emphasis added]). This 'dialogical' nature of agency will be looked at in the following section, but firstly, building on the discussion in section 3.2, it is beneficial to explain how Emirbayer and Mische (1998) set out a reconceptualization of agency by bringing a temporal perspective of both agency and their structural contexts. "Theoretically, our central contribution is to begin to reconceptualize human agency as a temporally embedded process of social engagement, informed by the past (in its

habitual aspect), but also oriented toward the future (as a capacity to imagine alternative possibilities) and toward the present (as a capacity to contextualize past habits and future projects within the contingencies of the moment). The agentic dimension of social action can only be captured in its full complexity, we argue, if it is analytically *situated within the flow of time*" (Emirbayer and Mische, 1998:963 [emphasis added])

Emirbayer and Mische's (1998) describe the three dimensions of temporality as the 'Chordal Triad of Agency'. They define it as "…the temporally constructed engagement by actors of different structural environments – the temporal relational contexts of action – which, through the interplay of habit, imagination and judgement, both reproduces and transforms those structures in interactive response to the problems posed by changing historical situations" (Emirbayer and Mische, 1998:970). The three elements of the Chordal Triad of Agency are set out here for explanatory purposes in table 3.2.

The iterational element
It refers to the selective reactivation by actors of past patterns of thought and action, as routinely incorporated in practical activity, thereby giving stability and order to social universes and helping to sustain identities, interactions, and institutions over time.
The projective element
Projectivity encompasses the imaginative generation by actors of possible future trajectories of action, in which received structures of thought and action may be creatively reconfigured in relation to actors' hopes, fears, and desires for the future
The practical-evaluative element
It entails the capacity of actors to make practical and normative judgements among alternative possible trajectories of action, in response to the emerging demands, dilemas, and ambiguities of presently evolving situations.

Table 3-2 - Elements of the Chordal Triad of agency - Emirbayer and Mische (1998:971)

Emirbayer and Mische (1998) suggest that the agency dimension of social action is taking place within structural contexts that are also temporal in nature and since social actors may be embedded to one degree or another within these socially structured contexts, they may be oriented towards any one of the three dimensions of temporality at any one time. They do not specifically use the term spatial, but they are explicit that these temporal orientations occur within emergent and unfolding 'situations' as this following quotation explains "Since social actors are embedded within many such temporalities at once, they can be said to be oriented toward the past, the future, and the present at any given moment, although they may be primarily oriented toward one or another of these within any one emergent situation. As actors move within and among these different unfolding contexts, they switch between (or "recompose") their temporal orientations—as constructed within and by means of those contexts—and thus are

capable of changing their relationship to structure" (1998:964). Such an orientation connects with a definition of the concept of transition in temporary organisations (Lundin and Söderholm, 1995) and this is discussed further in section 3.4 below.

In understanding this situational aspect of agency, Emirbayer and Mische (1998) draw on the work of Joas (1996), specifically noting that actors (and their actions) are mutually constituted with the situation itself (1998:970). Feldman (2016) also draws on the work of Joas (1996) in understanding the centrality of action in actors enacting routines and this is dealt with in section 3.5 below. This centrality of action and choice is also found at the heart of understanding transitions in temporary organisations, specifically the relationship between the temporary and permanent organisation (Jacobsson et, al., 2013) and this will be discussed in section 3.4 below. The work of Emirbyer and Mische (1998) will also be returned to when discussing the role of agency in organisational routines in section 3.5 (Howard-Grenville, 2005).

And so, building on a process ontology of organising (Tsoukas and Chia, 2002; Hernes, 2014) and the work of Emirbyer and Mische (1998) in understanding organising as spatial, temporal and dialogical, the following section will build on this and discuss some key tenets of the work of Mikhail Bakhtin and the application of dialogism to organisation studies (Holquist 2002; Cunliffe et, al., 2014).

3.3.7   Principles of Dialogism

This section further explores the 'dialogical' nature of agency highlighted by Emirbayer and Mische (1998). Firstly, it provides a brief discussion on some key tenets of the work of Bakhtin relevant to this thesis, through the work of Holquist (2002). This is followed by a review of its application in recent times to understanding organisation studies, before presenting the 'chronotope' as applied to the spatiotemporal and dialogical nature of the organising inquiry, through the work of Lorino and Tricard (2012), which is proposed as an opportunity for a finer grained categorical analysis of the relationality of action within and between organisational routines (Feldman, 2016).

Although the work of Mikhail Bakhtin was not translated into English until the later part of the last century, his work has slowly become influential in western philosophical thought, predominantly in literary theory (Holquist, 2002), but also more recently within the process philosophical perspective of organising (Cunliffe et, al., 2014) and applied to organisational theory (Shotter, 2008; Lorino and Tricard, 2012)

Starting with the question what is dialogism? Holquist (2002) points out that this is a term not actually used by Bakhtin himself in any of his texts, but one that he uses to bring together Bakhtin's work, without losing sight of the variety of thoughts within it (2002:15). Holquist (1993) suggests that through all of Bakhtin's work, there is one unifying principle

that ties all his work together, "This unitizing force is Bakhtin's obsession, early and late, with relations between self and other…since the particular way Bakhtin models the relation of self and other is a dialogue of a special kind" (1983:308). As discussed above, agency and the act of organising is relative to the space and time of the actors (self and other), and this is the same for Bakhtin. "Dialogism argues that all meaning is relative in the sense that it comes about only as a result of the relation between two bodies occupying *simultaneous but different* space, where bodies may be thought of ranging from the immediacy of our physical bodies, to political bodies and to bodies of ideas in general (ideologies)" (2002:21) [emphasis in original].

This is an important philosophical point for this study because as highlighted in Chapter Two, it is the relationship between the parties to the construction process, its inter-organisational structure (Sydow and Braun, 2018), predominantly brought together through procurement, that has dominated the landscape in understanding the design and construction process. In this way, we can think philosophically of the relationships between parties to the construction process, and the experiences that they have during the process, as being a dialogue between self (eg, client) and other (eg. Contractor) within a '*structure of spatiotemporal continuity*' (Rescher, 1996:39). "Conceiving being dialogically means that reality is always experienced, not just perceived, and further that it is experienced from a particular position…that structure is organised around the categories of space and time. They articulate what has been called the 'law of placement' in dialogism, which says everything is perceived from a unique position in existence; its corollary is that the meaning of whatever is observed is shaped by the place from which it is perceived" (2002:21). I will return to the issue of categories of space-time when I discuss the chronotope in section 3.3.8 below.

In dialogism, the central unit of analysis is the utterance, which is not an original abstract statement where the words have a common and agreed definition, nor is it a statement free of personal judgement and choice, but is laden with the values of the speaker, answering to what has already been said and authoring what is yet to come. In terms of the process of organising, the understanding of the role of utterance and dialogism is summed up by Shotter (2008) who explains that words used are not separated entities with any predetermined meaning, but their meaning is generated in the utterance by the 'self' towards the 'others', in the situated ongoing flow of time. "Crucial in a number of people organizing their activities with each other is their being able, as they act, to arouse in each other *transitory understandings* of 'where' so far in their activities they have 'got to', and *action guiding anticipations* of 'where' or 'how' next they are likely 'to go on'. In other words, it is only *in* the course of their actions that they can *organize* their conduct of them, not before by planning them, nor after by criticizing them…our talk always points beyond itself to a not-yet-determined something, to a 'world', to the unity of the event

encompassing us within which it will have its meaning" (Shotter, 2008:510 [emphasis in original]). This quotation on the role of dialogue from the perspective of dialogism highlights the interdependency between project actors in resolving the epistemological incompleteness of their experiences in the organising process, as discussed in section 3.3.2 above (Rescher, 1996).

This first section on dialogism has discussed some of the basic principles of dialogism (Holquist, 2002). The purpose of this was to draw further attention to the dialogic nature of agency and to highlight that the dialogue between different actors has categories of spatiotemporal structures that form, and are formed by, utterances between actors, which act as boundaries between what is known and what is not-yet-known (Shotter, 2008) and so reduces the uncertainty of incompleteness experienced in the construction project management process. In the following section I want to build on this understanding of categories of spatiotemporal structures and their application to the organising process from the perspective of Mikhail Bakhtin (1981).

3.3.8 Dialogism and the organising inquiry

The work of Mikhail Bakhtin has recently become more prevalent in studies of organisation from a process orientation (Shotter, 2008; Cunliffe et, al., 2014). This section focuses specifically on the work of Lorino and Tricard (2012) to help with understanding the categories of spatiotemporal structures in the organising process, that of the 'chronotope'. It is this structure of understanding categories of space-time that is suggested can help understand the relationality of action within and between organisational routines, which will be discussed further in section 3.5 below (Feldman, 2016).

Building on a process approach to organising from a pragmatist perspective (Lorino, 2014, 2018), Lorino and Tricard (2012) focused on the categorical structure of the organising inquiry by using the 'chronotope', which Bakhtin set out in his work entitled The Dialogic Imagination (Bakhtin, 1981). They propose that by focusing on action rather than language alone, then the organising inquiry "is an inherently abductive narrative inquiry" (2012:202). This is important in respect of organisational routines because as Feldman (2016) noted, action is both 'doing and saying'. Lorino and Tricard (2012) apply the chronotope structure empirically to two industrial situations, manufacturing and construction. It is the construction industry chronotope that is of interest to this thesis, where they suggest that, using the phenomena of construction safety, the practices of 'design' and 'construction' are represented by two separate and distinct temporal and spatial frames, and this can be related to stage one and stage two of the BSCU project life cycle presented in Chapter One.

Bakhtin (1981) describes the chronotope thus: "We will give the name *chronotope* [literally, 'time space'] to the intrinsic connectedness of temporal and spatial relationships that are artistically expressed in literature…What counts for us is the fact that it expresses the inseparability of space and time [time as the fourth dimension of space] …in the literary artistic chronotope, spatial and temporal indicators are fused into one carefully thought-out concrete whole. Time as it were, thickens, takes on flesh, becomes artistically visible, likewise, space becomes charged and responsive to the movements of time, plot and history" (1981:84)

Lorino and Tricard (2012), building an argument beyond the traditional static view of space-time and referencing such work as Chia (2002), go on to suggest that despite its limited use in organisation studies, the chronotope offers an opportunity around which to structure the narrative of the organising inquiry. They draw on Bakhtin's work to provide eight categories of the time-space organising narrative and apply this to the understanding of the 'design' stage and the 'construction' stage of a project, as set out in table 3.3 below.

	The project design chronotope	The on-site building chronotope.
Temporal frame	First phases of the project; two to three months. Time can mostly be planned.	Building phases: six months to two years. Unforecast events (weather, ground) make planning difficult.
Spatial frame	Headquarters offices, engineering and commercial offices. The engineering site is physically stable.	Building site, outdoor, weather and ground constraints. The building site is a physical site which permanently evolves in 3-D.
Meaning-making principles	The project should be optimized from a technical and economic point of view, to get the contract (call to tenders). Ongoing transformation of information about the building and the building process.	The building operations must be firmly managed to respect the time schedule (heavy penalties for delays), ensure the quality of the building (risk that the customer does not accept it) and ensure work safety.
Roles and characters	Design engineers, architect, engineering subcontractors (structural engineering, etc.), sales engineer, customer, future site manager (at the end of the chronotope).	Site manager, foremen, safety controllers, workers, building subcontractors, suppliers, customer.
Values	Technical expertise, ability for economic optimization, creativity in inventing design options.	Managerial authority and leadership, commitment, ability for situated improvisation, decision-making, field experience, relevant judgment.
The building is a "crossing character"	The building is a virtual object, it is the focus of information treatment (it is "an epistemic object".	The building is a virtual object, it is the focus of information treatment (it is "an epistemic object").
Tooling	Information systems, calculation models, structural models, economic simulations, drawings, plans.	Drawings, plans, building machines and tooling, subcontracting and suppliers' contracts.
Boundaries	Starts with the customer's call to tender. Ends with the "transfer meeting" (project transfer to the building team).	Starts with the "transfer meeting" (project transfer to the building team). Ends with the customer's acceptance of the building.

Table 3-3 - The 'design' and 'construction' chronotope - Lorino and Tricard (2012)

In referring back to Chapter One, it is proposed that this representation by Lorino and Tricard (2012) of the two stages of the construction process is both beneficial but limited in understanding the project life cycle, as it does not take into account *'how'* the organisation 'transitions' from the design stage to the construction stage. It is therefore suggested that the 'chronotope' offers an opportunity to explore 'transitioning' by providing greater granularity to the relationality of action within and between routines through an analysis of the dialogue of the project participants. The application of the chronotope and the pragmatist concept of inquiry (Lorino, 2018) will be developed in further detail in the methodology in Chapter Four.

3.3.9 Summary

In this first section of the theoretical framework, the thesis was positioned onto-epistemologically in a process metaphysics (Rescher, 1996). It then drew on literature that applied this philosophical position to the understanding of organisations, which moved the language from organisations, to 'organising', with a central focus on time (Tsoukas and Chia, 2002; Gauthier and Ika, 2012). This was followed with a brief discussion on the ontological position of time in organisational theory and presented the work of Orlikowski and Yates (2002), suggesting this helps in understanding the temporal behaviour of the project organisation.

This understanding was built on to further explore the spatial, temporal and dialogical nature of agency (Emirbyer and Mische, 1998) and the role of action being relative to the spatiotemporal dialogue between organisational actors. The section was finished with a more fine-grained understanding of this dialogical, spatial and temporal aspects of organising through the work of Mikhail Bakhtin (Holquist, 2002; Shotter, 2008) and the application of the chronotope as a categorical structure for understanding the organising inquiry (Lorino and Tricard, 2012, Lorino, 2018), proposed as a tool for a finer grained analysis of how routines transition. The use of the chronotope will be explained in more detail in Chapter Four. The following section moves on to the literature on temporary organisations.

3.4   Temporary organising

3.4.1   Introduction

The first section of this Chapter Three set out the theoretical framework of the organisational phenomenon in managing a stage gate transition with incomplete information and how while the life cycle model may be used to control and measure performance, it may disrupt the patterns developed in the earlier stage of the project. Section 3.3 then positioned the study ontologically in relation to the incompleteness of information and presenting the spatiotemporal and dialogical nature of the organising inquiry as a way of understanding these difficulties, suggesting the chronotope as a categorical tool for understanding the structure of this situated and temporal dialogue between the parties to the construction process.

This section 3.4 of the framework focuses in on the concept of transition, seeking to understand in greater detail the nature of action as dialogical within a theory of the temporary organisation and the understanding of the role of organisational routines and their adaptation in influencing the capability of project organisations.

3.4.2   A theory of the temporary organisation

Packendorf (1995) set an agenda for theorising about temporary organising beyond the traditional planning and control theories in project management and Lundin and Söderholm (1995), influenced by Cyert and March (1963), presented a framework for the foundations of 'a theory of the temporary organisation' that could be argued to have been the turning point towards talking about 'project organising' (Jacobsson et, al., 2013). The work of Lundin and Söderholm (1995) and Packendorf (1995) led to further research, such as understanding the importance of the wider context within which the project sits (Engwall, 2003) and differentiating between 'functional' and 'temporary' organisations (Lundin and Steinthórsson, 2003).

Lundin and Söderholm (1995) called for a new action-based theory developed from the inside out, where action takes primacy over decision making, a reversal of the approach from Cyert and March (1963) and which aimed at positioning the temporary organisation through four basic concepts of time, task, team and transition that set the organisational boundary within which this action takes place. From a process ontology, Bakker et, al. (2016) suggest that in temporary organising, the resulting patterns and outcomes from these actions are relative to the capability of project actors to reflect on and adapt their practices. In doing so they recognise the necessary incompleteness discussed in section 3.3 … "some conditions of actions will always remain unknown and unintended consequences may feed with or without recognition into conditions of the next sequence

of actions" (2016:3). And so, they suggest it is the relative dynamic nature of temporary organisations that influences their outcomes and that it is the use of "rules, routines and resources to coordinate, enable and restrain the actions of actors, both inside and outside the focal entity" (2016:3).

This focus on how incompleteness (either at a philosophical, epistemological or practical level) may influence actions from one sequence to the next suggests an orientation towards the original concept of 'transition' from Lundin and Söderholm (1995). Yet Bakker (2010), who provides a detailed review of the literature that explicitly studies organisational forms that are temporary, revises the Lundin and Söderholm (1995) framework to one of time, team, task and context, omitting the concept of transition due to what is explained as a lack of literature matching Lundin and Söderholm's (1995) original conception. While the addition of context adds valuable theory to temporary organising, Jacobsson, et. al., (2013) have challenged this omission of transition as a concept and returned to the original work of both Lundin and Söderholm (1995) and Cyert and March (1963) to rethink the relationship between the temporary and the permanent form of organising.

Before dealing with routines in understanding the capabilities of temporary organisational forms, the following section will explore in more detail the concept of transition and build on the wider theoretical framework discussed in section 3.2 above.

3.4.3 Transitions in temporary organisations

This section returns to the re-emergence of 'transition' from the original Lundin and Söderholm (1995) model following Bakker's (2010) exclusion of it as a basic concept from the original work. This is not to challenge the evidence of Bakker's work, nor the inclusion of context as a basic concept. The evidence is clear, and as supported so far in this thesis, that not just time but space (context) plays a key role in understating the dynamic nature of organising. However, it is proposed here that continuing to explore the concept of transition from a process ontology (Bakker et. al., 2016) offers an opportunity to explore the underlying generative mechanisms of how a project may move from stage to stage within a deterministic life cycle model (Winter et. al., 2006).

Transition itself is not a new concept. It has been used as a way of understanding societal transitions more generally (Abbott, 2001), in understanding the dynamics of group development (Gersick, 1988), in their role in mega projects (van den Ende and van Marrewijk, 2014) and as work and society becomes more transient in nature (Lundin et, al., 2015) there has been a reawakening of the concept of 'liminality' (Söderlund and Borg, 2017).

Van den Ende and van Marrewijk (2014) drew on this literature to look at 'rituals' associated with transitions in temporary organisations, suggesting that life cycle models "remain largely instrumental" (2014:1134) devices and ignore the social aspects of transition. They identify these transition rituals as occurring in 'liminal spaces', the transitions between different stages of a project, and sees them "as necessary to bring project actors together and allow the project to proceed. That is to say, signing a record of decision or contract, enacting a project kick-off, or celebrating a milestone are seen as vital practices to facilitate the project process" (2014:1138). These rituals are context specific and situated, mean different things to different project actors and reflect the time bound nature of different project stages in the life cycle. They suggest, "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" (2014:1141).

Abbott (2001), while taking a more historical perspective, looks at trajectories, transitions and turning points. Trajectories, relatively stable interdependent sequences of action, are disrupted by turning points, "irregularities in what has hitherto been a stable trajectory" (2001:249), transitioning these stable interdependent sequential patterns into new forms of trajectories. One of the paradoxes that emerges from this work in relation to the project life cycle is understanding what might be social level change when trajectories are interrupted and the hard paradigm model of planned change (Pollack, 2007), both of which influence our understanding of the patterning of relations either side of the transition (2001:256). Abbot notes therefore, that for it to be understood as a transition, it must be separated by two different and observable spatiotemporal zones.

Gersick (1988), in her work examining group development noted that within each group under study, while they commenced with developing their own pattern to achieving the task, at approximately the midway point in the duration for each team (each duration being different) they "underwent a major transition. In a concentrated burst of changes, groups dropped old patterns, reengaged with outside supervisors, adopted new perspectives on their work, and made dramatic progress. The events that occurred during those transitions, especially groups' interactions with their environments, shaped a new approach to its task for each group" (1988:16). Gersick drew on the concept of 'punctuated equilibrium' from the natural sciences to help explain this transitioning in patterning and went on to apply this thinking to routines in organisations (Gersick and Hackman, 1990) through understanding the causes of an air accident. They identified

that groups import patterns and evolve these patterns over time. Their focus was on habitual routines over time and the assumption that changes in these patterns occur only when there is both impetus and a time for change, most notably relevant for this study, and building on their earlier work, is when a 'milestone' is reached "Reaching a natural breakpoint in the task (such as finishing a first draft of a paper), or reaching a milestone in the life of the group (such as an anniversary of the group's founding), can provide team members with a stimulus to break away from old patterns and initiate new ones" (Gersick and Hackman, 1990:86).

Returning to the work of Lundin and Söderholm (1995), Jacobsson et, al. (2013) bring 'transition' back to the forefront of theorising about temporary organisations suggesting that, despite a lack of literature on the topic (Bakker, 2010; Kenis et, al., 2009), it provides for a better explanation of the temporary organisation as a transitory unit of the permanent organisation. Something that Winch (2014) sets down as one of the main conceptual problems challenging current thinking in project organising. In challenging the temporary/permanent paradigm, Jacobsson et, al. (2013) cite a body of work on 'project business' (Artto and Wikstrom, 2005), suggesting that this level of integration between the temporary and permanent calls for bringing back the concept of transition and questioning the role of choice and action.

"Transitions do not just happen, there are decisions made that are associated with the transitions. Within the project, these decisions tend to be the choices of the temporary organization. Nevertheless, these choices are not entirely within the vestige of the temporary organization. There are some decisions that also relate to the permanent organization (or the boundary between the temporary organization and the permanent organization). In fact, there are some decisions made by the permanent organization for the temporary organization" (2013:581).

It could be argued, following the literature presented in section 3.2 regarding stage gate assurance (Winch, 2010), that the types of choices and decisions presented in their table 1 (2013:580), while happening through the life of the project, come to a decisive point at specific stage gates, and most specifically at the point of transition from definition to delivery (Morris, 2013; Miller and Hobbs, 2005). This is explored further by inquiring into the model developed by Jacobsson et, al. (2013) to look at their approach to the centrality of action, as this becomes an important point in the analysis of organisational routines that is discussed further in section 3.5 below (Feldman, 2016; Simpson and Lorino).

They review the work of both Lundin and Söderholm (1995) and Cyert and March (1963) and revisit the discussion on the contested primacy of action or decision making at the centre of both theories. In seeking to understand the relationship between the temporary

and the permanent organisation, they combine the four concepts from each theory into a single model and suggest that the concepts of 'transition' and 'choice' sit at the centre of this model and that 'action' becomes a natural outcome of the 'choices' made in reference to Lundin and Söderholm's (1995) original definition of the concept of transition. Their model depicting this combination of the temporary and the permanent is depicted below in figure 3.3.
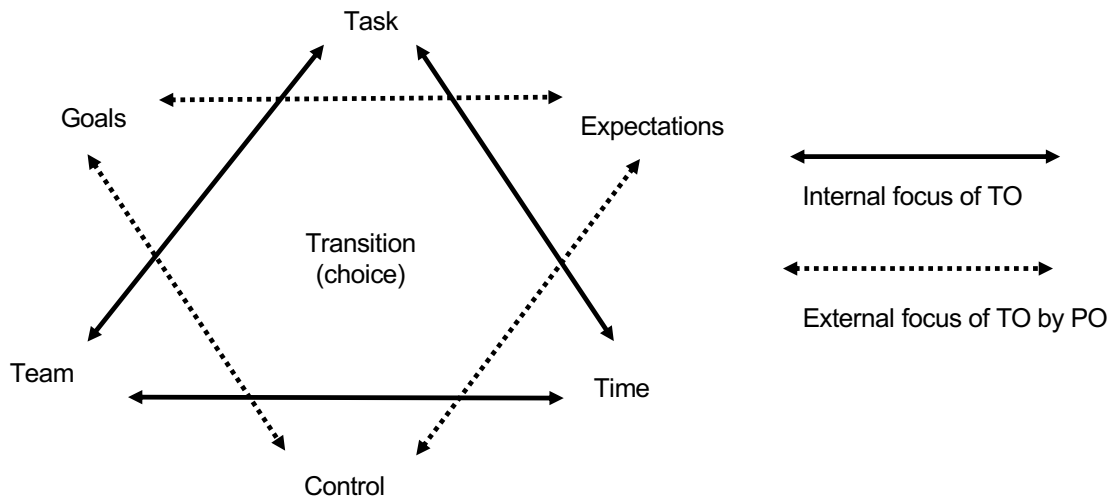
Figure 3-3 - Interrelations of basic concepts in theory of temporary organizations. Taken from Jacobsson et, al. (2013:582)

They suggest that the proposed framework provides a spring board to think of 'project organising' and propose that by "Moving in this direction would be a way to further acknowledge the role and importance of transition in temporary organizations. We propose that transition and choice constitute the core of such unfolding processes, and that action is a fundamental, but underlying, base for transition and choices to be realized…" (2013:585)

Building on the discussion in section 3.3 above with respect to the dialogical nature of organising (Emirbyer and Mische, 1998; Shotter, 2008), it could be argued that because action is central to a theory of the temporary organisation (Lundin and Söderholm, 1995) and a new theory of organisational routines (Feldman and Pentland, 2003; Feldman, 2016) that this requires an understanding of 'how' action can be understood in bringing together these two theories, specifically when viewed from a process ontology of organising (Tsoukas and Chia, 2002; Hernes, 2014;). Action in organisational routines is dealt with below in section 3.4.4 with respect to unique v's repetitive tasks in temporary organisations and in section 3.5 in relation to more recent theorising from the routines literature. Firstly it is looked at here through the sequencing concepts put forward by Lundin and Söderholm (1995) to arrive at what is termed in this study as '*dialogic action*'.

It is in these sequencing concepts that they see action as being organised within the temporary organisations life cycle. "The crucial point is that these four sequencing concepts are the main and most central mechanisms to recognize, if we want to understand action in temporary organizations, and that each one dominates in a different phase" (1995:451-452). Presented below, in table 3.4, is how Lundin and Söderholm (1995) explain their sequencing concepts:

SEQUENCING CONCEPTS IN A THEORY OF THE TEMPORARY ORGANIZATION	
Phases in temporary organizations - an introduction to sequencing concepts	
The conception of finite time as linear, creates a sequence of phases within which exist bundles of activities.	
Phase 1: Action-based entrepreneurialism	
Entrepreneurs initiate and provide impetus for the creation of the temporary organisation.	
Routine task entrepreneurialism:	Efficiency of repetitive tasks are a given
Unique task entrepreneurialism:	'Unique tasks require extensive rhetorical outbursts' to gain momentum (1995:446)
Mapping by rhetoric	'Basic mode for initiating temporary organisations' (1995:446);
Phase 2: Fragmentation for commitment-building	
Beyond rhetoric, specifying time and task. Define the end of the organisation.	
Decoupling by bracketing	Explicit or implicit decision to fix the time boundary
Task definition by partitioning	Task(s) must be delimited to be able to define success.
Phase 3: Planned isolation	
Isolation of organisation to minimise disturbance in executing pre-determined plans.	
Planning	Within the boundaries of bracketing and partitioning, plans are 'action generators';
Guarding	Guarding enables actions according to plan and repels external interference but also to manage change.
Phase 4: Institutionalized termination	
'Termination is an institutionalised activity for repetitive task…unique tasks are different in the sense that their very uniqueness fosters uncertainty…however…the termination requirement also appears in the unique case' (1995:449).	
Recoupling by bracketing	The end state of the project when membership or tasks are complete. '
Bridging	The transmission of experiences and knowledge from one organisational setting to the next.

Table 3-4 - Sequencing concepts of a theory of the temporary organisation, adapted by the author from Lundin and Söderholm (1995).

It could be argued that in taking action as the unit of analysis for understanding 'transition', the sequencing concepts can help explore the generative mechanisms underlying the performance of the temporary organisation and so help understand '*how'* the temporary organisation transitions from stage to stage within a life cycle. This is relevant to the practice perspective of organisational routines as from this perspective

routines are seen as generative mechanisms that influence both stability and change (Feldman and Pentland, 2003; Feldman, et, al., 2016). Similarly, Lundin and Söderholm (1995) suggest that these sequencing mechanisms have the potentiality of both action and in-action in a temporary organisation: "We have argued that action is at the heart of a theory of the temporary organization…however, the theory that we have introduced is also a theory of inaction (or inertia, one might say), in that it indicates the mechanisms for action and, implicitly, also the mechanisms for fostering inaction…we have previously argued that the creation of a project involves the introduction of boundaries…Thus, the fundamental mechanisms for preventing projects from being completed centre on boundary-opening activities, or in other words on attacking boundary-setting activities when these occur" (1995:453). Bracketing these boundaries (decoupling and recoupling) as an activity of transitioning will be dealt with further in both the methodology and discussion chapters below.

Connecting these sequencing concepts with organisational routines, through the centrality of action, it is possible to return to the concept of transition and extend how action may be understood with respect to the dialogical nature of organising (Shotter, 2008; Lorino and Tricard, 2012). Lundin and Söderholm (1995) suggest that the concept of transition can have two meanings: (1) the distinctive 'before' and 'after' change related to the task at hand, (2) *perceptions of the transformation by the participants, the inner workings of the project, the perceptions of causal relationships between multiple participants*. This second understanding of the concept of 'transition' is important when related to the 'processing information' to 'reduce uncertainty' (Winch, 2010) and to the dialogical, spatial, temporal and agentic understanding of organising from a process ontology that was discussed in sections 3.2 and 3.3 above. It could be argued from this understanding that these perceptions of causal relations are inherently 'spatiotemporal' and 'dialogical' in nature, and could be argued to be '*necessarily incomplete'* in the situated flow of time (Rescher, 1996; Emirbyer and Mische, 1998; Holquist, 2002; Shotter, 2008; Lorino and Tricard, 2012; Winch, 2010; Pryke, 2017).

It is suggested here therefore that action within the basic concept of transition in the temporary organisation (Lundin and Söderholm, 1995, Jacobsson, et, al., 2013) can be defined as the dialogical utterances between the project participants (Emirbayer and Mische, 1998; Shotter, 2008; Lorino and Tricard, 2012) and could hence be termed '*dialogic action'*. The role of these 'utterances' within identified incidents and events will be discussed further in the methodology in Chapter Four.

This section has revisited in more detail the concept of transition in temporary organisations. It suggested that taking 'dialogical action' as the unit of analysis and

'transition' being understood as the perceptions of causal relations between participants, combined with the sequencing mechanisms of Lundin and Söderholm (1995) that this allows for a finer grained analysis of the generative mechanisms that influence the transformation of organisational routines across stages of the life cycle boundary. Section 3.5 below on organisational routines, will show how such an understanding accords with a 'practice' perspective of organisational routines.

Before that and building on section 3.2, the following section will look at organisational routines in project organisations from the perspective of organisational capabilities.

3.4.4 Project capabilities and organisational routines

Both the case study of this thesis and the typology of projects discussed in section 3.2 above, orients the focus towards the embeddedness of projects in their organisational context, specifically in relation to project-based organisations and the relationship between the temporary and the permanent organisation (Bakker, 2010; Grabher, 2004; Sydow et al., 2004; Winch, 2014). This section looks at the role of organisational routines in project organisations and draws on the literature associated with project-based organising as this helps understand the paradox of unique and repetitive tasks in temporary organisations (Lundin and Söderholm, 1995) and their influence on organisational routines (Hobday, 2000; Manning, 2008) and the role of organisational routines in developing organisational capability (Brady and Davies, 2004; Davies and Brady, 2016).

As discussed in section 3.2.2 above, the bodies of knowledge of the project management discipline have sought to provide guidelines and best practice for the development of organisational routines. For large engineering or mega projects, it has been argued that organisational routines in general are developed in the early stages of projects (Eriksson, 2015), influence the way that they are designed and governed (Erikson and Kadefors, 2017) and are involved in developing the capability of the project organisation (Stinchcombe and Heimer, 1985; Ahola and Davies, 2012; Davies and Brady, 2016).

Despite their role in organisational theory and their underpinning of a process ontology of organising (Tsoukas and Chia, 2002; Feldman, 2000), the opportunity that organisational routines offer to better understand the dynamic life cycle of projects has been predominantly limited to understanding the management and complexity of large projects (Stinchcombe and Heimer, 1985; Eriksson, 2015), learning across and between permanent and temporary organisations (Bresnan et al., 2005) and project based organisations and organisational capability (Brady and Davies, 2004; Davies and Hobday, 2005; Davies and Brady, 2016).

The prevalence of projects as organisational forms within a number of different industries has led more recently to the emergence of what has been termed project-based organisations (PBO) (Hobday, 2000). Hobday explains that "In contrast to the matrix, functional, and other forms, the PBO is one in which the project is the primary unit for production organisation, innovation, and competition… within a PBO the project is the primary business mechanism for coordinating and integrating all the main business functions of the firm" (2000:874). Project based organisations covers a range of different possibilities and Whitely (2006) develops a typology of project-based firms, as set out in table 3.5.

	Singularity of goals and outputs Low High	
Separation and stability of work roles	Low	High
Low	Organizational PBFs producing multiple and varied outputs with different and changeable skills and roles. For example, strategic consultancy, enterprise software, innovative business services	Precarious PBFs producing risky, unusual outputs with varied and changeable skills and roles. For example, some dedicated biotechnology firms, internet software firms such as Vermeer Technologies, many Silicon Valley companies
High	Craft PBFs producing multiple, incrementally related outputs with distinct and stable roles and skills. For example, some business and professional services including London advertising firms, Danish furniture and machinery firms, some IT consulting	Hollow PBFs producing single outputs and coordinating tasks through standardized, separate and stable roles and skills. For example, complex construction projects, many feature films in the United Kingdom and United States of America

Table 3-5 - Types of project-based firms (PBFs) - Whitley (2006:84)

Earlier work by Hobday, Davies and Brady (Hobday, 2000; Brady and Davies, 2004; Davies and Hobday, 2005) looked at the capability of project-based organisations from the perspective of the development of complex products and systems (CoPS). Much of this work built on both the resource-based view of the firm (Penrose, 1959) and Matrix organisations (Galbraith, 1973; Mintzberg, 1979). It did much to recognise the role of the adaptability and responsiveness of the project organisation as opposed to the traditional functional structure. It recognised the role of organisational routines (Nelson and Winter, 1982) in developing organisational capability through the development and maturity of project management systems. "Such project capabilities are embodied in company-specific organisational routines and procedures such as bid documentation and project management manuals, which contain detailed instructions about how to win bids, execute and close down projects." (Davies and Hobday, 2005:73). They recognised that the paradox of learning and knowledge in project organisations is a relationship between

the need to 'exploit' existing routines and to 'explore' new routines to meet the demands of entering new markets or undertaking one off 'vanguard' projects (March, 1991; Brady and Davies, 2004; Frederiksen and Davies, 2008)

They recognise that in a number of temporary organisations, these project-based organisations come together, especially on large engineering projects, around a number of different contractual structures. These structures extend the traditional firm boundaries that can lead to the use of informal methods of control aligned to the contractual mechanisms, as opposed to traditional hierarchical structures. Pryke's (2017) research on organisational networks in project-based organisations, referenced in section 3.2 above, has looked at this relationship between formal contractual routines and informal communication through the use of social network analysis and challenges the efficacy of traditional contractual structures.

Sydow et, al. (2004) set out to resolve similar dilemmas associated with project based organisations, that of the tension between agency and "their embeddedness within organisational and inter-organisational settings that demand integration of project activities within organisation command and control routines and or inter organisational control efforts" (Sydow et al., 2004:1476) and the tension between "the immediate task and performance demand of the project at hand versus the opportunities for learning and disseminating project practices that can be employed in subsequent projects" (Sydow et al., 204:1476).

Manning (2008) uses structuration theory and looking at inter-organisational relationships between project based firms, references Feldman and Pentland (2003) to discuss how project actors, relative to the uniqueness or repetitiveness of time, task and team "disembed routines of organizing from similar collaborative contexts and reembed them in the new context which may lead to 'innovative outcomes', more or less intentionally" (Manning, 2008:35).

Söderlund et. al. (2008) in their discussion on the development of project capability recognised that the maintenance and adaptation of routines played a central role as a learning mechanism, particularly as it transitioned through its project life cycle. "Not only did the routines function as memories for the entire project but also for improving the efficiency of the other learning mechanisms. Drawing on the earlier discussion, we can see that routines led to different types of relational activity and enhanced the quality of knowledge exchange with external partners. Routines then contributed to the expansion of the resource base of the project and contributed to the establishment of project competence. Routines, however, also played a role for reflection in the project. By applying routines, the PM team could more easily detect errors and deviations in the

project, and by rewriting existing routines and procedures, they could ensure that errors were not repeated" (2008:524)

Bechky (2006) in her work exploring the coordination of work in the film industry drew attention to the dynamic relationship between structure and action as being enacted through the roles multiple participants play in achieving their tasks where high degrees of interdependency exists in complex environments. Taking a practice orientation towards routines (2006:5), the paper highlighted that in temporary organisational structures it was not solely the standardised structures that achieved task complexity, but the negotiated interaction between the multi project participants and so highlight the dependency between organisational routines. Davies and Hobday (2005) provide a wider discussion on the paradox of project tasks as ranging from unique to repetitive as defined by Lundin and Söderholm (1995).

"When an organization performs a unique task, members of the project and the wider organization have little or no immediate knowledge or experience of how to win the bid or manage the project…to cope with task uncertainty and novelty, they must be willing to revise or abandon traditional approaches and be creative in their search for experiences from previous projects that will help develop new routines…When a project performs a repetitive task, members of the project use existing project routines and institutionalized procedures to guide their actions…However, project tasks become routinized and predictable only if they have been repeated over many projects" (Davies and Hobday, 2005:75).

Such a paradox of tasks in temporary organisations focuses on the issue of 'action' and 'choice' but also difficulties in knowledge transfer and learning of routines across and between temporary and project-based organisations (Bresnen, Goussevskaia and Swan, 2004; 2005). Bresnen, Goussevskaia and Swan (2004; 2005) use both Giddens (1984) structuration theory and organizational routines (Nelson and Winter, 1982; Becker, 2004) respectively, to build on our understanding of project-based organising and the micro-processes of change (Tsoukas and Chia, 2002). They shed light on the dynamic nature of temporary and project-based organising with its mix of unique and repetitive tasks, through understanding the embedment of new knowledge and learning in such organisations. The work shows that the often dispersed and autonomous nature of project based and temporary organising produces local work practices with their own 'logic of action', often the result of a combination of existing knowledge and structural arrangements. They draw heavily on the 'practice based' literature of organizational routines (Parmigiani and Howard-Grenville, 2011) and its influence in the micro-process of organizational change (Orlikowski, 1996; Feldman, 2000, Feldman and Pentland,

2003), showing how project actors used locally established routines to make sense of new practices (Weick, 1995) and how such an autonomous position of power and authority influenced the acceptance, rejection or modification of new work practices.

This paradox also highlights the nature of task complexity, which has been more recently theorised from a process and practice lens to extend its understanding beyond traditional perspectives that tended to focus on separating the task from the individual undertaking the task at a particular time and in a particular situation (Hærem, et. al., 2015). This new conceptualisation can help in understanding how organisational routines are performed within temporary inter-organisational arrangements as discussed in section 3.2 above (Sydow and Braun, 2018). It highlights the degree of interdependency and reliance on multiple participants and hence the interdependency between organisational routines. Particularly relevant to challenging the underlying temporal assumptions as set out in section 1.2.2 and in exploring the concept of transition is the sense of newness from an agentic perspective. They highlight organisational contexts where actors are leaving and joining the organisation can impact on task complexity, specifically organisations (such as inter-organisational projects) where there are high degrees of interdependency. "As new actors enter or leave the scene, the potential number of information cues and ties between actions can increase or decrease, with a corresponding non-linear effect on task complexity…we expect that the addition or removal of actors could have an especially strong effect in situations where there is reciprocal interdependence (and mutual adjustment) among actors…" (2015:456).

Stinchcombe and Heimer (1985) can be argued to have put organisational routines at the forefront of project management. Ahola and Davies (2012) focus on four main themes emerging throughout the book, namely - the decoupling principle, characteristics of offshore projects, innovation and routines in projects, and sources and management of uncertainty in projects. Through these four themes they note how Stinchcombe and Heimer (1985) see projects as dynamic and uncertain environments, with high degrees of interdependence between tasks and organisations where the contractual relationships lead to complex arrangements in the inter-organisational relationships. Such an understanding is akin to the nature of construction project organisations as identified by the Tavistock Institute (1966) who identified uncertainty and interdependence as the two overarching features of the organising process and is relative to the discussion in chapter two on the organisational uncertainties of the construction process.

Most specifically relating to organisational routines, Ahola and Davies (2012) clarify how Stinchcombe and Heimer (1985) first discuss how uncertainty is resolved via decision making rather than routine procedures and that "every aspect of a project, Stinchcombe

argues, must be administered as if it were an innovative response to an uncertain event. A project is a mechanism for reducing uncertainty" (Ahola and Davies, 2012:666). However, recognising the paradox of routine and unique tasks in projects (Davies and Hobday, 2005) they point out that later on in the book Stinchcombe and Heimer (1985) recognise and clarify that "the successful performance of a complex and uncertain project depends on many stable and repetitive routines found in large projects…an interesting but often neglected contribution that "project routines" are the central source of efficiency and embodied learning in project organization…Such routines consist of the tacit experience of managers and codified knowledge embodied in guide books, software tools and intranets for reuse on future projects, so that the efficiency built into routines does not disappear when a project is dismantled…Organizations need to know when existing routines are no longer adequate and when novel and innovative responses are required to deal with uncertainties such as unexpected happenings, crises or opportunities to improve performance" (Ahola and Davies, 2012:666).

Eriksson (2015) looked at the role of routines in the definition stage of a mega project, similar to the case study within this thesis and developed three propositions. Firstly, that routines are both imported into and designed in-project; secondly, due to the extent of newness of these routines to project actors, "learning processes occur, as reflected in change and adaptation of routines over time". (2015:15); and, thirdly, "the temporary nature of megaprojects limits investments in the development of routines and increases tolerance for dysfunctional routines" (2015:16)

More recently, this understanding of organisational routines has similarly been applied to understanding the typology of projects used for this study, namely large engineering or mega projects. Davies and Brady (2016) use the paradox of organisational routines when looking at the development of project capabilities, in itself a paradox as "Capabilities are considered to be enduring, whereas projects are ephemeral" (2016:323), but note how capabilities may be assembled from the wider inter-organisational context (Jones and Lichtenstein, 2008), which again speaks to the paradox of mixing new and existing routines in temporary organisational structures. This work has more recently been developed to look at how these routines are reconfigured, adapted and maintained from previous projects, through the whole life of the project and on into future projects (Zerjav, et, al., 2018). This work can be drawn on to build from the figures presented in section 3.2 to show that from a capabilities perspective, routines are transformed in that transition from the front end to execution. This is presented in figure 3.4 below where the Zerjav et, al. (2018) model is adapted to present the dotted line as the three main transitions, with the red dotted line being the transition under investigation in this study.
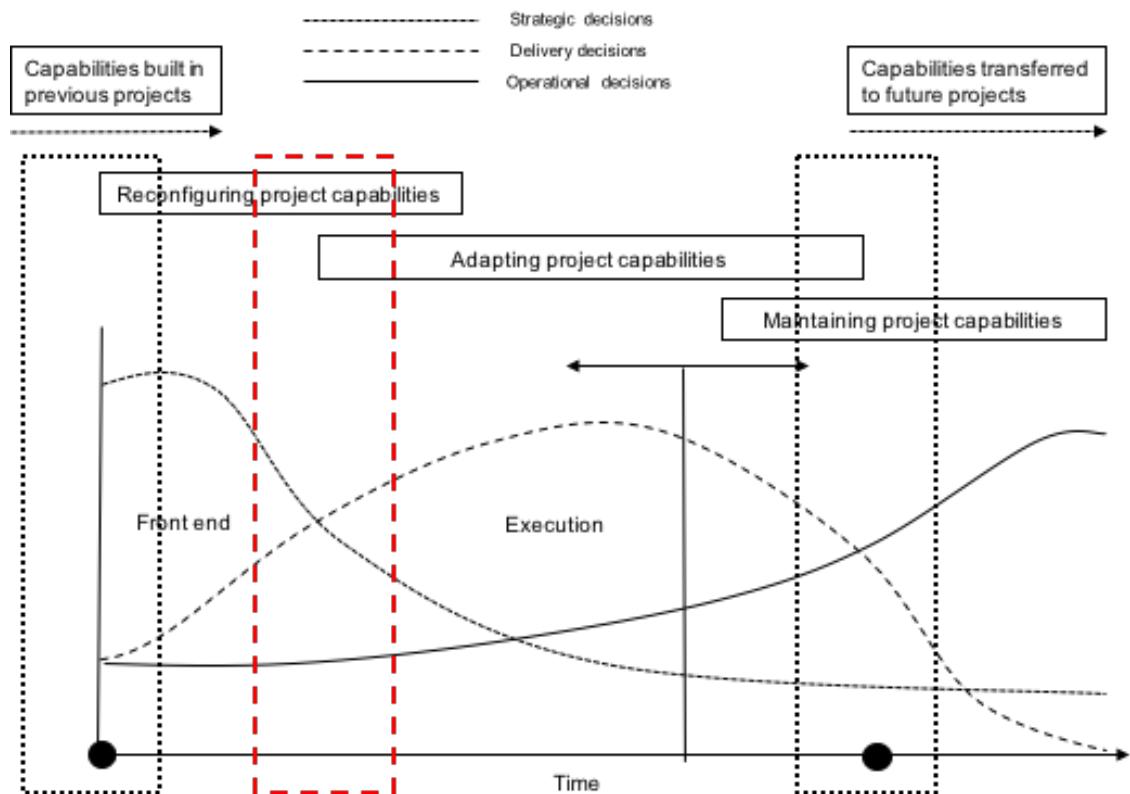
Figure 3-4 - Transitioning capabilities. Adapted from Zerjav et, al. (2018)

This section has discussed project-based organisations, their embeddedness in respect of their wider organisational environment and how the paradox of unique and repetitive tasks influences developing organisational routines in projects, how routines are brought into projects as existing mechanisms or adapted and developed inside the project and so their role in developing the capability of project organisations. While this literature has helped in understanding the role of organisational routines in the capability of temporary organisations, it could be suggested that this has predominantly been approached from what the routines literature terms as the 'capability' perspective and as will be discussed in section 3.5 below, it is suggested that it is the 'practice' perspective that will enable a an alternative understanding of '*how'* organisational routines influence project capabilities by understanding their generative mechanisms (Parmigianni and Howard-Grenville, 2011; Feldman and Pentland, 2003).

3.4.5   Summary

This section has looked in detail at the concept of transition as understood in temporary organisations. It presented an argument for using 'dialogic action' as the unit of analysis through the perceptions of causal relations from the project participants. It then looked at organisational routines in temporary organisations, predominantly from the literature on project based organisations and organisational capabilities, showing how these capabilities are adapted over time, but suggesting that a practice based perspective of

organisational routines offers an opportunity to explore how the generative mechanism underlying routines can help understand the development of project capabilities.

The following section moves to an understanding of the literature on organisational routines from this practice perspective, and more recent thinking regards to the 'patterning of action' over time and supporting the argument for 'dialogic action' as the unit of analysis.

3.5   Organisational routines

3.5.1   Introduction

Building on section 3.4, this section will firstly take a brief look at the concept of an organisational routine and their evolutionary nature, helping to understand the concept of 'incompleteness' from the routines literature perspective. It then reviews a new theory of organisational routines (Feldman and Pentland, 2003) and how they came to be understood as a generative source of both stability and change. Following this, work on how they have been more recently understood as being conceptualised at two levels, the capability and the practice level, is presented before going on to explore the role of agency and artefacts. Following this more recent thinking around the central role of action and the relationship between the ostensive and performative aspects of routines is discussed, which leads to thinking and questions around their (re)creation and the 'patterning of action' and connects to the understanding of dialogic action in understanding the concept of transition.

3.5.2   The concept of organisational routines and incompleteness

Organisational routines are an integral part of organisations, "To understand routines is to understand organizations. Routines are ubiquitous in organizations, and an integral part of organizations. One is hard put to identify an organization where no routines are present" (Becker, 2008:3). They have become a more common theme in organisational theory over the last 50 years (Cohen et al, 1996; Becker 2004, Parmigiani and Howard-Grenville, 2011) with their understanding shifting from programmable to evolutionary in nature (March and Simon, 1958; Cyert and March, 1963; Nelson and Winter, 1982;) and so understood to play a central theme to a process ontology of organising (Feldman, 2000; Tsoukas and Chia, 2002) presented in section 3.3 above.

The original understanding of routines was built on a deterministic stimulus-response model that focused on executable decisions from processing information based on a set of rules derived from prior knowledge, that determines the necessary actions to take. This is in essence similar to the 'hard' paradigm of project management (Pollack, 2007) that has led to the bodies of knowledge and the predominance of the planning and control mechanisms within the life cycle model. A process and practice orientation towards both organisational routines and temporary organisations highlights the limitations of such an understanding as it neglects the spatial and temporal nature of organising. "Of course the actional paradigm of organizations defended by pragmatists does not deny that decisions exist, but it views decision-making as a specific type of situated activity, rather complex, generally involving several participants, influencing but not determining other activities, inscribed in a specific temporal framework and interacting with the evolution of

the situation" (Lorino, 2018:62). This centrality of action in routines and its spatio-temporal nature will be explored further in section 3.5.7 below.

As not all activities in organisations can be considered routine, the understanding of organisational routines can be difficult and a number of authors have sought to bring together the literature and create 'staging posts' in our understanding (Cohen et. al., 1996; Becker, 2004; Parmigianni and Howard-Grenville, 2011). Two central difficulties emerge from the literature, firstly to understand the concept of a routine and their difference to individual habit (Cohen et. al., 1996; Becker, 2005), and secondly to understand their evolutionary nature (Nelson and Winter, 1982; Pentland and Reuter, 1994; Cohen and Bacadayan, 1994). Hodgson (2008) and Knudsen (2008), building on their earlier work (Hodgson and Knudsen, 2004), provide clarity on these points and help to bring a deeper understanding of the difference between habits and routines and so the concept of incompleteness of information as routines evolve over time.

Hodgson (2008) makes clear the difference between habit and routine. "For two reasons, to understand the concept of a routine we need to appreciate the idea of a habit. First, routines operate through the triggering of individual habits. Second, routines are the organizational analogue of individual habits." (2008:15). Hodgson (2008) sets out how habits are formed and acquired through repeated social behaviour, not genetically transmitted, giving a tendency to behave in a certain way in certain situations. This then gives ontological priority to something other than intentionality. Such a position suggests that routines are not simply enacted directly from the projects corporate governance but involve interpretation from previous performances.

Accepting the recognition that routines occur at the organisational level (Cohen et al., 1996) and working from the 'routines as genes' analogy (Nelson and Winter, 1982), Hodgson (2008) states that, "Individuals have habits; groups have routines…but routines do not simply refer to habits that are shared by many individuals in an organisation or group. Routines are not themselves habits: they are organisational meta-habits, existing on a substrate of habituated individuals in a social structure. Routines are one ontological layer above habits" (2008:18).

So, conceivably from this perspective and building on the discussion of routines in temporary organisations in section 3.4.4 above, when a temporary organisation is first formed or a new stage in a life cycle commenced, it could be argued that routines among its participants do not exist, they only exist back in the host or permanent organisation and through the tacit and explicit knowledge embodied in actors and embedded in artefacts, are brought into the temporary organisation, and need time to evolve into a routine for that specific temporary organisation.

Such a conception therefore questions 'how' these routines evolve. Knudsen (2008) partly summarising earlier work (Hodgson and Knudsen, 2004) provides explanations for how habits and routines evolve, introducing the terms 'replicator' and 'interactor'. Evolutionary theories have the three common tenets of "variation, selection and information transfer…the concepts of an interactor and a replicator are introduced to characterize the relation between social organizations (interactors) and routines (replicators) in selection processes" (2008:127). Knudsen (2008) focuses on the more complex generative selection processes in evolutionary theory (2008:136), proposing that generative selection is the move of a set of entities, with environmental interaction, from one state to the next where the resulting set is sufficiently similar to the prior set. In this regard, habits and routines contain behavioural instructions and act as 'replicators' in the production of a similar copy. The organisation then becomes the 'interactor' through which these replications can take place.

Where replicators (organisational routines) are complex, then the process of development becomes more critical as multiple sets of information and their associated coordinating mechanism must be transferred, which often means that copying is 'incomplete' across environmental boundaries. "The rudimentary structures of complex replicators are transferred through *incomplete copying*; the capacity to interact and replicate develops through processes that can be emergent as well as deliberate…therefore, the developmental phase is much more critical for the replication of organisational routines than it is when habits are copied" (2008:140 [emphasis added]). This concept of incomplete copying highlights the challenges of importing or adapting routines in temporary organisations as discussed in section 3.4.4 above, and strengthens the argument for using dialogic action as the unit of analysis to understand how the underlying generative mechanisms influence these 'emergent and deliberate processes' in this development phase. This development phase is taken here as being the point where routines are adapted at predefined time boundaries of transition, for example from definition to delivery in the project life cycle, as shown in figure 3.4 in section 3.4.4 above.

This section has positioned incompleteness in enacting routines by understanding routines as acquired at an organisational level through repeated behaviour and as being incomplete in their replication from one situation to the next. A conceptual foundation that challenges the temporal efficacy of temporary organisations. The next section looks at how organisational routines have come to be understood as underlying generative mechanisms that influence both stability and change.

3.5.3   Routines as sources of stability and change

The early part of this century saw a number of studies that challenged the thinking that routines, while open to adaptation were generally static, stable and unchanging entities (Cyert and March, 1963), and building on Nelson and Winter (1982) started to break them open and understand their constituent parts and focusing on the role of agency in understanding the routine as a source of flexibility and change in organisations, and so being generative in nature (Feldman, 2000; Feldman and Pentland, 2003; Howard-Grenville, 2005)

Feldman's' (2000) notable work changed the view that it was solely exogenous change that caused routines (and therefore organisations) to adapt and brought forward a 'practice' oriented perspective (Feldman and Orlikowski, 2011) that influenced the proposition of a becoming ontology (Tsoukas and Chia, 2002) and introduced the performative and ostensive terminology (Latour, 1986) to the work on routines. "In contrast, recognising the dual nature of organisational routines provides us with a way of conceptualising change that comes from within organisational routines: change that is a result of engagement in the routine itself…They are produced by many people with different information, preferences, and interpretation, they are enacted over time and space and they interact with other streams of action in such a way that it is not always clear where one organisational routine ends and another one begins"(Feldman and Pentland, 2003).

Central to Feldman's' (2000) work is endogenous change through the potential of the human agents themselves (agency) to behave in a certain way when enacting the routine, within any given context (structure). Feldman (2000) noted that her work "…points to the internal dynamics of a routine as another source of change. This perspective moves away from viewing routines as either behavioural or cognitive and toward thinking about routines as something that includes both of these aspects" (2000:613). Feldman and Pentland (2003) then develop this work further into 'a new theory of organizational routines', breaking them open and explaining their structural and characteristic make up, specifically in understanding the make-up of the 'ostensive', 'performative' and 'artefact' aspects of the routine to be able to understand the generative mechanisms that influence stability and change, and so the (re)creation of organisational routines over time.

It could be argued that this is similar at a conceptual level to the sequential mechanisms in a theory of the temporary organisation presented in section 3.4 above and that these generative mechanisms within both theories provide the direction for challenging their underlying temporal assumptions presented in Chapter One. Feldman and Pentland's

(2003) explanation of an organisational routine has been explained here in tabular format, in table 3-6.

Building on this analysis and earlier work, Feldman and Pentland (2003) put forward a generally agreeable definition of an organisational routine. "*There is considerable agreement in the literature that organisational routines can be defined as repetitive, recognisable patterns of interdependent actions, carried out by multiple actors*" (Feldman and entland, 2003:95 – emphasis added).

Routines	
Recognizable pattern of action:	Instances of the routine occurring may differ, but they are of a similar nature to be a recognisable category.
Repetition:	In every organisation, a routine happens more than once. It is repeated over time.
Interdependent actions:	Individuals act but they do so in a context created by the actions of the other participants.
Multiple participants:	Organisational routines involve the co-ordination of multiple organizational participants.
Ostensive to performative	
Guiding:	The ostensive aspect of a routine can serve as a template for behaviour or a normative goal.
Referring:	People use the ostensive aspect of routines to refer to patterns of activity that would otherwise be incomprehensible.
Accounting:	The ostensive aspect of routines allows us to explain what we are doing and provides a sense of when it is appropriate to ask for an accounting.
Performative to ostensive	
Creation:	A pattern of action that occurs only once is not a routine. Through repetition and recognition, organisational routines are created.
Maintenance:	Performing an organisational routine maintains the ostensive aspect of the routine by exercising the capabilities that enact it.
Modification:	When people enact routines, they can maintain the ostensive aspect, but they can also choose to deviate from it.
Artefacts	
Not provided with a separate heading within this work but pervasive throughout is the role that artefacts play in influencing the ostensive and performative aspects.	
Subjectivity	
As a collective performance...a routine is energised and guided by the subjective perceptions of the participants. The ostensive aspect of a routine enables us to create an apparently objective reality. Objective and subjective aspects are inseparable because the objectified summaries of routines (the artefacts) are constructed from our subjective perceptions of them.	
Power	
The ostensive aspect of a routine is aligned with managerial interest (dominance), while the performative aspect is aligned with the interest of labour (resistance).	
Agency	
The performative aspect reflects individual agency. Agency is always enacted in the context of organisational and institutional structures that define a set of possibilities for the participants.	

Table 3-6 - Descriptive analysis of routines. Adapted from Feldman and Pentland 2003

This section has briefly summarised the work by Feldman (2000) and Feldman and Pentland (2003) that led to what they termed as 'a new theory of organisational routines' and related their understanding of the ostensive and performative aspects of routines as generative, to that of the sequencing concepts in a theory of the temporary organisation (Lundin and Söderholm, 1995). Two of the key features highlighted in this theory of routines are the roles of agency and artefacts and both of these aspects have implications for understanding the concepts of transition and incompleteness in temporary organisations, specifically the perceptions of causal relations by project participants. In the next two sections these are discussed further, starting with agency and a return to the work of Emirbyer and Mische (1998).

3.5.4 Routines and agency

Section 3.4 highlighted the nature of action in temporary organisations and the influence of newness of participants (Bechky, 2006) or the situation (Hærem et. al., 2015; Stinchcombe and Heimer, 1985). In the literature on organisational routines, Howard-Grenville (2005) built on the work of Feldman (2000) and Feldman and Pentland (2003) with a sharper focus on agency. The main focus was on the temporal relationship between agents and routines, describing how "…actors approach routines with an orientation to iterate past performances, selectively apply aspects of the routine to the situation at hand, or actively alter the routine for future performances…actors may use routine performances to strategically advance both personal and organisational goals" (Howard-Grenville, 2005:619).

This emerging temporal view of agency in enacting routines (Howard-Grenville, 2005; Feldman and Pentland, 2003) builds on the work of Emirbayer and Mische (1998) which was presented in section 3.2, and warrants further discussion to inform the work on the centrality of 'dialogic action' in the concept of 'transition', specifically thinking about how interdependent project actors deal with incomplete information across the predefined time boundary, through their perceptions of causal relations.

Common themes running through the paper by Emirbyer and Mische (1998) are the questions of habit, routine and embeddedness. In the iteration element (*past*) of their 'Chordal Triad', routines play a central role. Most specifically for organisations they argue that resistance or persistence to change in organisations may come from "informal patterns of shared beliefs" rather than formal structures (1998:983). "Institutional decisions do not develop through rational cost-benefit analysis, but rather are embedded in established routines and become 'rationalized' (and thereby legitimated) only through retrospective accounting processes" (1998:983). So when transitioning across a predefined time boundary in a construction organisation, such as from design to construction, with the departure of the design staff and the arrival of the construction

staff, we could argue that there is a potential lack of shared belief leading to different retrospective accounting processes.

Within the projective element (*future*), actors have the ability not just to reiterate past routines but to invent new possibilities. Here, they (1998:988) draw on the pragmatist attention to routine, discussing how the common trait in experience is to project a future state (Dewey, 1981), and our ability to project ourselves into the roles of others (Mead, 1934). In the practical evaluative element (*present*) they suggest "Even relatively unreflective routine dispositions must be adjusted to the exigencies of changing situations; and newly imagined projects must be brought down to earth within real-world circumstances. Moreover, judgments and choices must often be made in the face of considerable ambiguity, uncertainty, and conflict; means and ends sometimes contradict each other, and unintended consequences require changes in strategy and direction" (1998:994).

This ambiguity leads to another important point from Emirbyer and Mische and building on the earlier work in this section by Knudsen (2008) from an evolutionary perspective of routines, is again the incompleteness of information and the notion that "In the case of iterational [past] or habitual activity, there is also the problem that no new situation is ever precisely the same as the ones that come before; all routine activity faces new contingencies to which certain adjustments have to be made." (1998:998). Emirbayer and Mische (1998) make reference to what Dewey (1985) calls the "objective 'incompleteness' of situations" (1998:998). Organisational, or routine, performances can be considered to be reliant upon socially relational agentic capability to problemitise, characterize, deliberate, decide and execute within this immediate incompleteness of the ongoing present flow of time.

Finally, the work of Emirbyer and Mische (1998) strengthens the argument regards a focus on dialogic action as the unit of analysis, not to discuss its primacy or otherwise over 'choice' but to suggest that building on their dialogical nature of agency can be added their understanding of the mutual constitution of agency and structure. Emirbayer and Mische (1998) suggest that while structure and agency are mutually constituted, it is not to the extent that the two cannot be observed separately and that through 'dialogue', actors vary their 'actions' in relation to the different structures at different times (1998:1004). It is this variability in choice that creates the generative nature of collective behaviour (at the level of an organisational routine) and analysing collective 'dialogic action' could therefore be argued as more appropriate for understanding 'transition' across life cycle stage boundaries. Proposed in section 3.3 above and to be detailed further in the methodology in Chapter Four, it is through the categorical structure of the chronotope that this 'dialogical action' can be analysed as this will be able to account for

both the structures that actors engage with, and the values, norms and beliefs they bring with them.

While much of the routines literature has moved on since this work by Emirbayer and Mische (1998) it provides a valuable foundation for theorizing the spatiotemporal nature of agentic behaviours within routines (Feldman, 2000; Feldman and Pentland, 2003), specifically in the typology of uncertain and complex large engineering projects. Perhaps most notably, it is the notion of objective incompleteness in the ongoing present flow of time and how project actors deal with that both within and outside of imported established routines and the development of new ones in their dialogical interaction with structure and other actors.

In addition to human agency, as Feldman and Pentland (2003) and Emirbayer and Mische (1998) point out, non-human artefacts play an important role in the structures associated with performance of organisational routines. This is important for an industry like construction and the inter-organisational nature of the typology of projects in this study, whose work is so much built around the production of artefacts, whether that be from contracting or governance systems, because as Pryke (2017) notes, these are incomplete as they move through the construction process. The following section explores further the role artefacts in routines.

3.5.5   Routines and artefacts

Orlikowski (2007), building on her earlier work (Orlikowski, 1996), argued that approaches to organisational studies were limited in their conceptualisation of how human beings interact with the material world. Orlikowski (2007) suggested that material artefacts through which practices were performed were taken as static or generally ignored, or if they were researched, then it was largely the case that this was through studies in the adoption or diffusion of technology as separate and distinct phenomena. The paper suggests that seeing the materiality of social practice as a part of everyday organisational life, where technology or humans are not singled out, separated or ignored allows an alternative view that sees both the social and material as 'constitutively entangled', where "…there is no social that is not also material, and no material that is not also social." (Orlikowski, 2007:1437). This conception of the entanglement of the human and non-human will be drawn on further in reviewing practice theory in the methodology in Chapter Four.

Much of the origin and capability of a routine therefore, does not only lie in agentic knowledge and the recursive patterning between the ostensive and the performative aspects of the routine, but in the artefacts generating (or generated from) routine performances in organisations (Pentland and Feldman, 2008a). In sections 3.2 and 3.4,

it was highlighted how in managing temporary organisations these artefacts are drawn primarily from the disciplines' bodies of knowledge, (influencing the contracting and governance systems) which having been drawn from a positivist ontology (Pollack, 2007), are oriented towards more prescribed ways of how tasks should be completed, as if the artefact itself is the routine and the spatiotemporal nature of the work is largely ignored.

Figure 3.5 depicts Pentland and Feldman's conceptualisation of the relationship between these three aspects of the routine. Earlier studies of routines recognised the role of artefacts (Nelson and Winter, 1982; Cohen et al, 1996; Becker, 2005) but again as largely deterministic and static in nature, or indeed inconsequential. It is more recent studies that have emphasised the greater influence they play in the performance of the routine itself or the organisation as a whole (D'Adderio, 2008 and 2010; Pentland and Feldman, 2008a) and how this reliance on static and deterministic artefacts to deliver the desired output from the routine can have undesired consequences. As Pentland and Feldman (2008a) note, the artefact is not the routine. "Understanding routines as generative systems allows us to see why efforts at design often go awry. It also allows us to suggest ways in which one can imagine a different approach to design that takes seriously the living systems that are being influenced" (2008a:247). Most recently, D'Adderio (2010) attempts to bring artefacts more to the centre of routines research by offering a new and more in-depth conceptualisation through the adaptation of earlier practice models of routine creation (Feldman, 2000; Feldman and Pentland, 2003; Pentland and Feldman, 2005), whereby the artefact is more closely embedded within the routine itself and forms a more central role in the evolution, stability and change of the routine (D'Adderio, 2010:225).
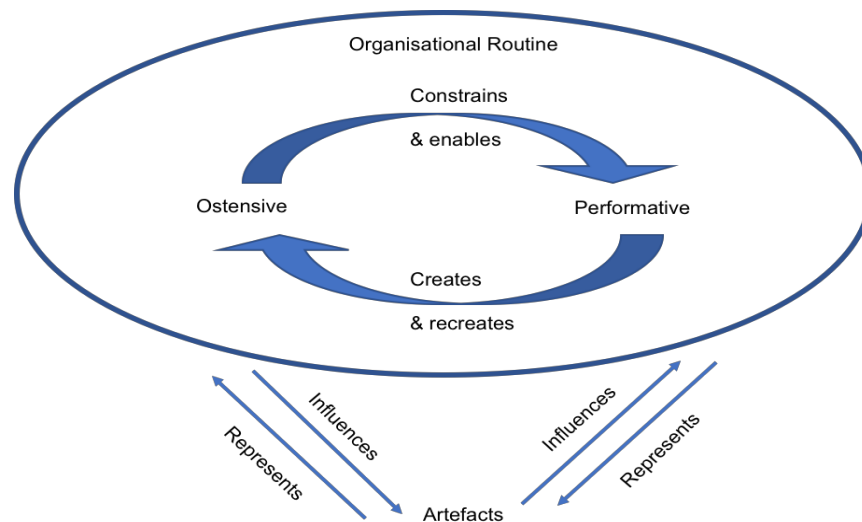
Figure 3-5 - Organisational routines as generative systems. Taken from Pentland and Feldman (2008a)

Artefacts also play a role in the managing the incompleteness of information as organisational routines are replicated from one situation to the next and this is perhaps best described by the following quotation by Becker (2004). "External structure (e.g. Artefacts) help to control, prompt and co-ordinate individual actions. Such an idea is consistent with the notion that general rules and procedures have to be incompletely specified when transferred across contexts, precisely because contexts are different...Interpretation and judgement skills are required for completing general rules, such as, for example, to know what routines to perform when...Furthermore, context matters because it leads to routines that strongly differ in terms of power of replication, degree or inertia and search potential…" (2004:651). While Pryke (2017) focused on the incompleteness of the contract, this quote by Becker and building on Emirbyer and Mische (1998) and Rescher (1996), suggests that generally, structural elements are necessarily incomplete in their movement across temporal and spatial boundaries.

Within temporary organisations artefacts have been shown to play a key role, through routines, in the transformation of knowledge and learning across 'discontinuous' project stages (Cacciatori, 2008; Stigliani and Ravisi, 2012) "…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" (Cacciatori, 2007:1599). Similar to the discussion on the chronotope of design and construction presented in section 3.3 above (Lorino and Tricard, 2012), while we can see the distinct differences between the two stages, we understand less of 'how' these artefacts are transformed across this spatial and temporal boundary.

This section has briefly highlighted the role that artefacts play in the (re)creation of organisational routines and as receptacles for knowledge retention and transfer, focusing on their mutually constitutive character with human agents and their incompleteness across situational boundaries. It showed that artefacts play a key role in temporary organisations, especially in the construction industry where the outcome of the routine is often the production of an artefact, a drawing or the built asset itself and questions of how these are transferred (or transformed?) across the stage boundary from design to construction.

The following section will present some more recent work that has understood routines as being applied from two different perspectives, as this is important in terms of both the eventual methodology for data collection and analysis, and in the application of

organisational routines in understanding project capabilities, which was suggested above in section 3.4.4 to have come predominantly from one particular perspective.

3.5.6 Capability and practice perspectives of routines

Parmigiani and Howard-Grenville (2011) reviewed the routines literature, focusing specifically on empirical studies from the main management journals. They set out two different approaches to the study of routines, 'capability' and 'practice', and their coming together. "Organisational 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 organisation theory [practice] are more interested in the practice of routines: how they operate and how they are produced or changed as people enact them" (Parmigiani and Howard-Grenville, 2011:414). Economists are predominantly concerned with the "what" or "why" and how this affects the performance of the organisation, its capability. "Scholars from the capabilities perspective regard individuals as bounded, rational, potentially acting out of self-interest, but by and large operating as expected and hence enacting routines as they are designed" (2011:417).

The organisational theorists, grounded in social theory, tend to focus on the "how" and hence are more interested in the internal dynamics of the routine itself and therefore, "those working from the practice perspective regard human action as situated in a specific set of circumstances, which may or may not lead to individuals enacting routines as they are designed" (2011:417). The attributes of these two different perspectives are set out in table 3.7 below.

In reviewing the empirical studies from the two perspectives, Parmigiani and Howard-Grenville (2011) suggest that the capability perspective is made up of three categories, namely: (1) Routines provide the micro foundations of capabilities; (2) Routines act as genes, suggesting both inertia and mutation; (3) Routines as the basis of learning through "the concept of organizational routines as the repository of organisational memory and knowledge, suggesting that routines provide the basis for organizational learning" (2011:433). From a practice perspective, again three categories emerge, namely: (1) How actors and agency influence routine performance; (2) The influence of artefacts on the performance of routines; and finally (3) the degree of embeddedness of the routine within its context. From this analysis and reflecting back on the discussion of routines in project organisations in section 3.4.4, it is argued in this study that much of the work within the project management literature on organisational routines that has been drawn on, can be considered to fall within the 'capability' perspective of routines.

	Capabilities perspective	Practice perspective
Main interests	What routines do (coordinate, create, change) and how they lead to firm performance	How routines operate; internal dynamics
Focal level of analysis	Firms (the firm is the structure for governing, collecting, creating and maintaining routines)	Routine itself
Unit of analysis	Routines as "entities" (whole routines, "black boxes")	Routines as "parts" (internal structure of routine, what's inside the "black box")
Empirical attention	Firm specificity of routines; How they create value and thus lead to a differential performance; How they build to form capabilities; Complementarities between routines; Transferability within and between firms (tacitness and stickiness).	Actors influence on routine performance; Artefacts influence on routine performance; How routines change and remain stable over time – role of agency and artifacts in this; How routines are created or changed; When and how routines breakdown.
Behavioural assumptions	Bounded rationality; Organization-specific foresight; Potential self-interest; Agents act as expected	Human action is "effortful" (not mindless); Human agency / everyday activity constitutes social life; Agents are not replaceable, have different intentions, motivations, and understandings
Analogies	Genes; Repository of memory; Micro foundations of capabilities	Grammars; Repertoires; Generative systems;
Stability and change	Acknowledge that routines can change, but more interested in stability; Routines provide for stability or change	Change and stability always possible; Same mechanisms (agency, artefacts) underlie change or stability.

Table 3-7 - Assumptions of the capabilities and practice perspectives. Parmigiani and Howard-Grenville (2011:418)

While Parmigiani and Howard-Grenville (2011) do not propose the merging of the two approaches, they highlight common themes and offer suggestions for where each can learn from each other. The commonality lies in the understanding that individuals play a key role in routines, that tacit knowledge of these individuals impacts on routine performance, that routines provide for both stability and change and that context is central to understanding the role of artefacts and technologies in routines, in the same way that Bakker (2010) has shown it to play a key role in understanding temporary organisations.

Parmigiani and Howard-Grenville (2011) discuss the benefits that could be derived by the practise perspective, with its heavy focus on situated action, by taking more cognisance of the wider and higher organisational context within which it is embedded.

Salvato and Rerup (2011) look at the multiple levels of this context as applied to routines and explore the independence or interdependence at both the micro and macro level of analysis. They provide a framework of the multi-level analysis of routines and capabilities that can help understand the relationship between the temporary and the permanent organisation when discussing project capabilities (Davies and Brady, 2016; Zerjav et, al., 2018).

Tacit knowledge (Polanyi, 1967) in routines, as highlighted by Parmigiani and Howard-Grenville (2011), can play an important role in relationships between project based organisations, specifically owner operators of assets who may maintain their own standards of engineering (such as the client organisation in this case study) , and so where the domain knowledge of the client organisation may exceed that of the contracting organisation and cause challenges when routines are imported into project organisations (via contracts) and when new participants join at different project stages. "The more tacit knowledge embodied in a routine, the more socially complex, causally ambiguous, and specific such routines are to the firm; this makes them more difficult to transfer or imitate, and therefore provides a greater source of value" (2011:441). While for the individual firm this may bring a source of value, it raises questions around how this value is used or the knowledge disseminated when the temporary organisation is transitioning across life cycle stages, and new participants join the temporary organisation.

This newness of experience was noted by Rerup and Feldman (2011) as a boundary condition in the stability and change of routines and forms a part of the challenge to the underlying assumptions two temporary organisations and organisational routines. "Newness is one likely condition under which the enactment of routines produces significant challenges for the enactment of an espoused organizational interpretive schema. Newness may occur in a variety of forms. For instance, a corporate spin-off often needs to establish a schema that is different from its parent's. Further research could identify the role of newness and other conditions in which the enactment of routines challenges an espoused interpretive schema" (Rerup and Feldman, 2011:606). It is conceivable to here exchange their example of corporate spin off with the establishment of a new temporary organisation, or indeed the main transition from definition stage to delivery stage and hence seek to understand how this newness may impact the (re)creation of organisational routines in temporary organisations..

This section has explained the more recent understanding of the two perspectives to understanding routines (Parmigiani and Howard-Grenville, 2011) and how they may be explored and explained, followed by a number of key features that are pertinent to understanding temporary organisations, which highlighted the context within which

organisations sit and the type of knowledge that new participants may bring to the temporary organisations and the influence of the newness of experiences in (re)creating organisational routines.

This thesis is therefore positioned in the practice perspective, suggested as a more appropriate perspective for identifying underlying generative mechanisms of how organisational routines (and so project capabilities) are adapted in temporary organisations. Building on the discussion of action in the concept of transition discussed in section 3.4.3, the following section will review more recent thinking in organisational routines research, which positions action at the centre of performances of organisational routines and is important for determining the methodology and analysis described in Chapters Four and Five.

3.5.7   Routine dynamics and the role of action

The purpose of this final section is to focus on the centrality of action in organisational routines, supporting the justification for understanding transitioning as dialogic action and the reasoning for drawing on dialogism (Holquist, 2002) and the chronotope (Lorino and Tricard, 2012) as a categorical structure for understanding the relationality of action within and between organisational routines.

Section 3.5.6 above, positioned this study as being in the 'practice' perspective of routines (Parmigiani and Howard-Grenville, 2011), which has come to be termed 'routine dynamics' (Feldman et, al., 2016). Its theoretical foundations are found in the work of Feldman (2000) and Feldman and Pentland (2003). It is in the epistemic understanding of the recursive, generative cycle in routine dynamics that we find the opportunity to explore how participants manage incompleteness in the transition across spatial and temporal boundaries. Where other research focuses on the relationship between actors' intent, "routine dynamics focuses on tracing *actions* and associations between *actions*, emphasising the way *actions* constitute social order" (2016:506).

This epistemic position is supported by the notion that these actions are both an '*effortful'* and an '*emergent'* accomplishment (Pentland and Reuter, 1994, Feldman, 2000), where perceptions of stability within situated action is relative to the 'timing' of those actions (Tsoukas and Chia, 2002). "Thus, stability in routines is both a matter of perspective and time. Routines are more likely to appear stable when viewed briefly, from afar. Observation of actions over time, however, reveals the dynamics underlying the stability and the provisional nature of stability" (2016:508). Such a view supports the need for alternative images of the life cycle model (Winter, et al., 2006), which may on the surface show apparent stability on the assumption that when defined ex-ante, it requires only an effortful accomplishment to be achieved, but when considering the need to transition

through the life cycle with incomplete information, there is a need to understand how the underlying generative mechanisms are generated, and therefore how such accomplishments may be emergent as well as planned.

It is here, in the internal workings of routines, that we can start to see the coming together of the underlying temporal assumptions of a theory of the temporary organisation and a new theory of organisational routines, as it is these perceptions of the relative stability of routines over time that is important for both routine dynamics and the basic concept of 'transition' in temporary organisations. It is related to the continuous newness of actions (participants coming in and out; new stages of work; new levels of information) and the point that Lundin and Söderholm (1995) make regards the second meaning of transition as a concept and its relationship with routine dynamics: "The second meaning of transition is more important to the inner functioning of project work. It focuses on perceptions of causal relationships, ideas about how to proceed from the present state to the final outcome and conclusion of the project" (Lundin and Söderholm, 1995:443). It is argued here therefore, that to help understand the temporal paradox found between organisational routines and temporary organisations, that the orientation towards 'dialogic action' during transition is supported by the epistemic position of routine dynamics' central focus on action and that action as being situated and in the flow of time.

Feldman (2016) describes three key features of action in routines. The first feature is that action is constitutive, where what we do in organisations is as a result of the context of the organisation and how it operates, including elements of materiality. The second feature is that of dualisms, specifically the ability of routines to transcend dualisms. Two dualisms are presented - stability and change; mind and body. The first having already been dealt with, the second can best be understood by not conceiving of the ostensive as mind and the performative as body, but by both performance and patterning as being 'embodied' in routine enactment, for example, in citing the work of D'Adderio (2014) on replicating routines, Feldman suggests that "replicating is not a process of first getting a vision and then creating routines that enact the vision, but it is a process in which the ways we think about what we do are affected by the doing of it" (2016:36). Such a conception aligns with the dialogical nature of organising as discussed by Shotter in section 3.3.7 above.

The third and final feature of action that Feldman (2016) highlights is action as relational. By positioning action as relational, Feldman is making the point that action is not the foundation of routines, nor the fundamental point from which all other understanding or attributes of routines can be built. "In relationality, by contrast, there are no fundamental elements. The focus is on relations within which things become. Relationality is not just

about relationships among people but about the fluid positioning of such phenomena as people, materiality, emotion, history, power, and time" (2016:37). This is somewhat at odds with Jacobsson et, al. (2013), who suggest that action is fundamental to choice and transition.

Feldman (2016) recognises that action has always been at the centre of routines, but espouses greater focus on "the creative potential of action and an appreciation of how critical this creative potential is for organizational routines" (2016:38). Feldman suggests that such an approach means to move from talking about aspects of routines and towards talking about their patterning. "What we need, instead, is to explore the specific actions (doings and sayings) involved in creating patterns or patterning. How do we create recognisability? The relevant question is 'How do we do patterning'" (2016:39).

Such an orientation has led to recent studies that have identified recursive process models of change in organisations (Dionysou and Tsoukas, 2013; Jarzabkowski et, al., 2012) and so opened up challenges to the ontological and epistemological foundations of organisational routines. Lorino (2018) and Simpson and Lorino (2016), for example, build on Feldman (2000) and Feldman and Pentland (2003) in recognising the 'practice' perspective of routines and the relationality of agentic and material interactions. However, in recognising that Latour (1986) suggested that the ostensive and performative aspects of the routine incur two different ontologies, and therefore that routine dynamics, while advancing the theory of routines, is perhaps not fully escaping from the stimulus-response perspective as discussed in section 3.5.2 above.

They offer up a more 'performative' view of routine dynamics from 'pragmatist' thinking, suggesting that such an approach brings a greater focus to the spatial and temporal nature of the organising inquiry, seeing the ostensive and performative aspects "not as contrasting constructs, but as two mutually constituting flows, within the same process, that of inquiry" (Simpson and Lorino, 2016:66). As Lorino states, "In the dualist view, the relationship between action and its representation seems to be abstracted from the situation and made self-supportive, and assembled into the 'routine' concept. What happens, what process takes place, when some routine is called in? Is there an instantaneous recognition of a precise class of situation, requesting a specific routine? If not, what kind of action must take place to characterise the situation and select a routine amongst several distinct possibilities…" (2018:79).

Such an approach could be argued to draw routine dynamics further into the strong process (pragmatist) view of organising taken in this study. It draws attention to the interdependency of participants in undertaking complex tasks (Hærem et. al., 2015), the paradoxical nature of tasks (and hence actions and routines) within temporary organisations (Davies and Brady, 2004;) and so further challenges the efficacy of the

way that organisational routines on projects have been derived from bodies of knowledge (Pollack, 2007). At this level of abstraction, it draws greater focus to the relationality of action from the ground up. Simpson and Lorino (2016) suggest that these challenges "invite new methodological approaches that engage with underlying processual dynamics, not only through historical analyses, but also by participating directly in the social and temporal presents of practice and engaging with the 'practical holism' of the situation" (2016:66). This will be explored further in Chapter Four.

Taking this routine dynamics understanding of action, and orientation towards patterning, together with and building on the interpretation of transition as being dialogic action, draws us towards a much needed and greater understanding of the relativity of time and space in the organising inquiry (Lorino and Tricard, 2012; Howard-Grenville and Rerup, 2017). It is further argued here therefore that this supports developing dialogism (Holquist, 2002) and its application to organising through the structure of the chronotope (Lorino and Tricard, 2012) as a way of better understanding these structural categories of patterning resulting from 'dialogic action', and thus creating recognisability.

3.5.8   Routines summary

Prompted by work in project management research discussed in section 3.4, this section 3.5 has reviewed the literature on organisational routines. It presented routines as a concept, distinguishing between habits and routines; their role in the evolution of the organisation through replication and interaction and how this may help us understand the underlying mechanisms associated with the management of incomplete information in the transition of a temporary organisation.

This was followed with work on a new theory of organisational routines (Feldman and Pentland, 2003) and the recognition that from a practice perspective (Parmigiani and Howard-Grenville, 2011) routines are generative in nature and play a key role in stability and change from 'within' the routine itself and are influenced by their embeddedness within their context. It then looked at the centrality of humans (agency) and non-humans (artefacts) before presenting more recent thinking about the role of 'action' in routines from the epistemic stance of routine dynamics. In doing so it aligned the concept of transition with routine dynamics through understanding action as being relational and dialogical and so supporting the use of the chronotope discussed in section 3.3.

This section brings to an end the theoretical framework for this study. The following section will summarise this literature and present the research question developed to take into the field and empirically examine the organisational phenomenon and theoretical challenge discussed in chapter one.

3.6   Literature synthesis

3.6.1   Introduction

This Chapter Three has set out the ontological and theoretical framework within which the study will work. This final section summarises the key theoretical points that were presented, which leads to the research question, from which the methodology in Chapter Four can be developed.

3.6.2   Literature synthesis

The first section of this theoretical framework chapter set the organisational phenomenon and the case study in its wider theoretical context. The key theoretical issue arriving from this section was the understanding of the '*limitations of the ubiquitous, deterministic life cycle model of project stages'* having been built on 'hard' paradigm of project management and so influencing the development of routines within the discipline of project management (Winter et, al., 2006; Söderlund, 2012; Morris, 2013; Winch, 2010; Pollack, 2007). Taking the theoretical position of '*uncertainty'* and '*interdependence'* associated with '*exchange and processing of information*' (Tavistock Institute, 1966; Winch, 2010; Pryke, 2017), together with the '*relational'* and '*transactional'* problems of organising within the construction process (Soderlund, 2012; Jones and Lichtenstein, 2008). It was this '*organisational uncertainty'* that threatened the '*perceived stability*' of the organisational routines developed in the front end of the project (Erikson, 2015; Morris, 2013) and thus suggesting that there was more knowledge required beyond the perceived stability to the '*routine of gating the process'* of stage gate reviews (Winch, 2010), to offer an '*alternative image of the life cycle model*' (Winter et, al., 2006). The concepts of '*transition'* and '*incompleteness'* within the temporal paradox of organisational routines (Feldman and Pentland, 2003) in temporary organisations (Lundin and Söderholm, 1995) was proposed as a position from which to do this.

Before dealing with these two pieces of literature, section 3.3 presented process metaphysics as the ontological basis for understanding the concepts of transition and incompleteness (Rescher, 1996). Two particular aspects were highlighted as relevant to the temporal paradox of temporary organising, firstly, the '*manifold nature of processes'* and so the '*relativity of space-time in their causal relations'*, what Rescher termed the '*structure of spatiotemporal continuity'.* Secondly, it was the concept of '*incompleteness of information*' and the '*limitations of our cognitively abilities to know only a part of what we experience',* in a particular place in the flow of time.

This spatiotemporal aspect was then extended to the organisational theory literature both in mainstream organisational theory (Tsoukas and Chia, 2002; Hernes, 2014) and project management theory (Gauthier and Ika, 2012; Linehan and Kavanagh, 2004), to

think of '*organisational becoming'*. It helped to extend the understanding of the temporal paradox through a practice oriented perspective of 'situated' practices that combine both '*objective and subjective perspectives of time'* (Orlikowski and Yates, 2002), which were suggested to be relevant to the temporary organisation with its clock dominated ex-ante defined life cycle but the continuous arrival of new participants at different stages of that life cycle.

The meaning of this practice-oriented conception of situated practices and time was then extended to be understood through '*agency'*, in their actions in response to '*structures'* (also changing over time) as '*emerging dialogically*' (Emirbyer and Mische, 1998). This dialogical understanding brought in the work of Mikhail Bakhtin (Holquist, 2002; Cunliffe et, al., 2014), with its focus on the '*dialogue between self/other'* and its relativity to space-time, as applied to the organising process (Shotter, 2008). This revisited the concept of incompleteness, this time more specifically within the dialogue between organisational actors and how from this perspective, dialogue has a sense of '*closing out the ongoingness of incompleteness*' through '*transitory understandings*' and '*action guiding anticipations*' within the dialogue itself (Shotter, 2008). The final section then presented Bakhtin's (1981) work on the '*chronotope'* and how, from a pragmatist perspective of the organising inquiry (Lorino, 2018), had been applied to understanding the two primary stages of construction in identifying '*categories of space-time*' (Lorino and Tricard, 2012) and how this categorical analysis of the dialogue between participants can help identify how project participants deal with incompleteness in transition.

Section 3.4 drew on the literature of Lundin and Söderholm's (1995) paper 'a theory of the temporary organisation', with a specific focus on recent attention to the concept of '*transition'* (Bakker, 2010). Drawing on the work of a number of authors, transition was positioned as a '*spatial and temporal change*', recognisable through '*turning points and rituals'* (Gersick, 1988; Abbott, 2001; Söderlund and Borg, 2017; van den Ende and van Marrewijk, 2014). It looked specifically at the work of Jacobsson et, al. (2013) and their reintroduction of the concept of transition in temporary organisations and how action was dealt with in their revised model of the '*temporary-permanent relationship'*. Building on the spatiotemporal and dialogical nature of organising presented in section 3.3, Lundin and Söderholms' (1995) second definition of transition, '*the perception of causal relations'*, was then combined with their sequencing concepts and it was suggested that in the '*process of managing incompleteness in a transition'* in a temporary organisation that action could be understood as '*dialogic action*' and taken as the unit of analysis for this study.

This was followed by a discussion on project based organisations and their embeddedness, particularly the relationship between the temporary and the permanent

with a focus on *'organisational capability and organisational routines'* (Hobday, 2000; Davies and Hobday, 2005; Manning, 2008; Sydow et al., 2004; Winch, 2014; Brady and Davies, 2004). It discussed the paradox between *'importing routines and developing new routines'* within projects, the relationship with knowledge and learning from one project to the next (Bresnen, et, al., 2004 and 2005; Söderlund et. al., 2008; Ahola and Davies, 2012) and the complexity of the task within routines, specifically associated with the newness of situations (Haerem, 2015; Bechky, 2006). It suggested that while organisational routines have come to be understood as underpinning the development of organisational capability (Davies and Brady, 2016; Zerjav, et, al., 2018), they have been dealt with at what has been understood as the 'capability' level , as opposed to the 'practice' level within the organisational routines literature (Parmigiani and Howard-Grenville, 2011) and that it was proposed that *'the practice level offered the opportunity to understand dialogic action'* in transitioning with incomplete information.

The final section of the theoretical framework then explored in more detail this practice level perspective of organisational routines (Parmigiani and Howard-Grenville, 2011), specifically the work of Feldman (2000) and (Feldman and Pentland, 2003). This perspective of routines understands them as being the *'underlying generative mechanism involved in both the stability and change'* of the organisation. It set out the limitations of the original stimulus-response understanding of routines before exploring the organisational routine as a concept and how from the evolutionary perspective its replication was *'incomplete as it moved from one situation to the next'* and how this influenced, and was influenced by, both human agency and artefacts (Hodgson, 2008; Knudsen, 2008; Emirbyer and Mische, 1998; Howard-Grenville, 2005; D'Adderio, 2010). The section then reviewed more recent literature on the 'practice' perspective of routines that focused on the *'relationality of actions within and between routines'* and so a focus on *'patterning' (*Feldman, 2016; Feldman et, al., 2016; Dionysou and Tsoukas, 2013; Jarzabkowski et, al., 2012*),* but also an orientation towards the performative nature of routines from a pragmatist perspective that challenged further the original stimulus response orientation suggested to exist with the ostensive-performative relationship (Simpson and Lorino, 2016; Lorino, 2018). It was suggested that this supported the idea of 'dialogic action' within the concept of transition, and thus the *'chronotope as a tool for categorising the structure of this dialogic action'* to help understand the relationality, and hence patterning of action.

This section has summarised the key ontological and theoretical points associated with transitioning through the time bound project life cycle with incomplete information. In the following section, these key points are drawn together to develop the research question.

3.6.3   Research question

Large construction projects are temporary organisations, designed for a unique capital investment outside of the normal operation of the firm, and so necessarily created anew each time. They are traditionally managed and organised around a deterministic, time delimited and staged, life cycle model. They are characterised by 'uncertainty' and 'interdependence', and by the specific 'knowledge' activities involved in processing information, through the stages of the life cycle, to design and construct an asset.

A key project management routine(s) is that of managing the 'stage gates review process' through these life cycle stages. It is argued that at each stage gate 'transition' there is the problem of managing the 'incompleteness of information' and that the traditional life cycle model and the resulting prescriptive management and organisation structures are insufficient 'knowledge' for the management of that incompleteness and that this knowledge is influenced by the 'relational' and 'transactional' uncertainties associated with the construction project organising process.

Organisational routines, repeatable and recognisable patterns of action, are said to be important for the capability of an organisation and its development over time. It was presented that at a 'practice' level, it is the patterning of action within and between these routines that influences the underlying generative mechanisms associated with the change and stability, and hence the capability, of the organisation. The temporal paradox of temporary organisations therefore is that their necessary 'newness' conflicts with the necessity of repeatable and recognisable patterns to create organisational routines.

It proposed dialogic action as the unit of analysis and the chronotope as a tool for identifying the categories of this dialogic action. It suggested this dialogic action took place within and between organisational routines, in respect of the agentic perceptions of causal relations (structure and agency), in managing the incompleteness of information in transitioning across pre-defined time bound life cycle stages. Doing so, it is suggested that to seek an alternative image of the deterministic life cycle model and a new understanding of the underlying generative mechanisms of 'how' the 'patterning of action' (re)creates organisational routines in 'time delimited' temporary organisations, the following research question can be asked:

'How' are 'patterns of action' (re)created in temporary organisations?

3.6.4   Summary

This section brings to an end the theoretical framework. It has drawn out the key aspect of the theory to develop a research question. The following chapter will now move into describing the methodology to be used to empirically examine and so seek to answer the research question above.

4 Chapter Four - Methodology

4.1 Introduction

In this Chapter Four, I return to writing predominantly in the ethnographic genre of a post-structuralist tale (van Maanen, 2011). The structure of this chapter is set out as follows: it firstly explains the overarching approach of this study, building on the 'type of study' this thesis is, as explained in Chapter One. It then sets out 'practice theory' as a way of operationalising a process philosophy. This is followed by an explanation of this study as an abductive 'inquiry' before positioning it as an autoethnographic study, describing the particular features that I seek to adhere to. Following this will come an explanation of the case study approach before moving on to a more detailed explanation of the identification of routines, incidents and events, building on the earlier explanation of 'practice theory' and adapting it to incorporate the chronotope as a categorical structure for capturing the dialogic action of participants to the routines. I then explain the strategy for developing the abstract underlying event sequence to the transition, before rounding off the chapter with a short discussion on my approach to writing this thesis from an ethnographic and process perspective.

4.2 Overarching approach

The philosophy of science, the epistemology of knowledge and methodological issues in academic research include much debate around appropriate terminology and meaning behind that terminology (Van de Ven, 2007:40) and research in the built environment does not itself have any fixed or standard approach (Knight and Ruddock, 2009). In the introduction to this thesis, I explicitly placed this study within the interpretive paradigm of the social science view of organisational analysis (Burrell and Morgan, 1979), a strong process view from a process ontology (Langley and Tsoukas , 2017), with an orientation towards pragmatism (Lorino, 2018), and within projects, a type two, level two study (Geraldi and Söderlund, 2017). From within the interpretive paradigm, Burrell and Morgan (1979) term the methodological position as 'ideographic'. "The ideographic approach emphasizes the analysis of the subjective accounts which one generates by 'getting inside' situations and involving oneself in the everyday flow of life…" (1979:6). The overarching approach to thesis therefore is to 'get inside' a stage gate transition.

From the first introductory chapter through to this one, I have talked of problems and challenges in both practice and theory and dealt with them as mutually inclusive. The same approach is followed moving into the design of the methodology and method, and in theorising from a process ontology it adopts a 'practice epistemology' to the generation of new knowledge, seeing practice and theory as mutually constituted (Jarzabkowski et,

al., 2010; Sandberg and Tsoukas, 2011), a 'generative dance' between organisational knowledge and organisational knowing (Cook and Brown, 1999).

The process research design broadly follows the key issues, guidance and suggestions for the collection and analysis of data provided by Van de Ven (2007:195). In summary, this study is an abductive inquiry (Lorino, 2018) to generate a hypothesis for conceiving new conceptions, perspectives and theories (Van de Ven, 2007:103) associated with the life cycle model of temporary organisations (Winter et, al., 2006).

It takes a strong process approach to the collection, measurement and analysis of data, giving primacy to the situated and ongoing flux and change in the process of organising (Van de Ven, 2007:195; Jarzabkowski et, al., 2017; Langley and Tsoukas, 2017). It is supported by a longitudinal organisational-auto-ethnographic inquiry (Parry and Boyle, 2009; Doloriert and Sambrook, 2012) into the dialogic action within the organisational routines (Pentland and Feldman, 2003) of a time delimited stage gate transition (Jacobsson et, al., 2013), within the life cycle of a temporary organisation (Lundin and Söderholm, 1995), and using a single case study (Yin, 2014; Eisenhardt and Graebner, 2007). The following section, discusses practice theory as applied to mainstream and temporary organising.

4.3   Process theory - a practice approach

This section explores practice theory as an approach that enables us to move on from the ontological position discussed in Chapter Three, as explained by Langley and Tsoukas (2017). "Of course, to explore process philosophically is quite different from empirically researching and theorizing process. While philosophers stand back from process to reflect on its received meanings…empirical researchers need to explicitly and systematically operationalize and theorize process. By doing so, they strive, in effect, to stabilize process – to harness its becomingness" (2017:7). They suggest that practice theory is one such approach.

Feldman and Orlikowski (2011) describe the emerging field of practice theory in recognition that "contemporary organizing is increasingly understood to be complex, dynamic, distributed, mobile, transient, and unprecedented, and as such, we need approaches that will help us theorize these kinds of novel, indeterminate and emergent phenomena" (2011:1). They propose three principles of practice theory, the first is that the social structures are built around day to day actions of people. Second, is the rejection of dualisms and third is "the relationality of mutual constitution…The notion of mutual constitution implies that social orders (structures, institutions, routines, etc.) cannot be conceived without understanding the role of agency in producing them, and

similarly, agency cannot be understood 'simply' as human action, but rather must be understood as always already configured by structural conditions" (2011:6). This therefore suggests that at the start of any temporary organisation, or life cycle stage, there exists some form of already configured social engagement. They make it clear that this mutual constitution does not necessarily mean relational equality, "Rather these are relations of power, laden with asymmetrical capacities for action, differential access to resources, and conflicting interests and norms" (2011:6) and hence an argument for introducing the chronotope in the analysis of the dialogical action within organisational routines.

Sandberg and Tsoukas (2011) position a practical rationality onto-epistemologically a priori to a scientific rationality. They set out the limitations of the dominant western thought of 'scientific rationality' and offer a framework for practical rationality. While accepting that both scientific and practical rationality are concerned with both theory and practice, Sandberg and Tsoukas (2011) suggest that, by reversing the onto-epistemological position, theory becomes a derivative of practice as opposed to practice being a derivative of theory (2011:339). They use Heidegger's existential ontology to develop their framework of practical rationality. Its essence is that the subject-object relation is derived from being-in-the-world (2011:343) and they propose that "Contrary to the ontology underlying scientific rationality, which assumes disconnection… the notion of being-in-the-world stipulates that our most basic form of being is *entwinement*: we are never separated but always already entwined with others and things in specific sociomaterial practice worlds…taking entwinement as the primary mode of existence means that for something to be, it needs to show up as something - namely, as a part of a meaningful relational totality with other beings" (2011:343). Such an orientation aligns with the concept of transition presented in section 3.4, where there is both a before and after trajectory, transitioning from one recognisable spatiotemporal arrangement to a recognisably different spatiotemporal arrangement.

They discuss how within this social entwinement, 'absorbed coping' becomes "our primary mode of engagement with the world…whereby actors are immersed in practice without being aware of their involvement in it: they spontaneously respond to the developing situation at hand" (2011:344). The 'entwinement strategy' described by Sandberg and Tsoukas (2011), much of it built on the work of Nicolini (2013), searches for the relational whole and is based on five key points. (1) focusing on practitioners and their tools is the point of departure; (2) a focus on what people actually do, not solely as humans but their interaction with others and their tools; (3) zooming in to observe the enactment of the activity; (4) identifying what is considered success and failure within -

identifying what matters to those involved; (5) zooming out to observe relationships between practices.

They suggest that it is breakdowns in this social entwinement that make us aware of our practices. The search for temporary breakdowns takes on two structures, first order breakdowns which occur naturally and second order breakdowns which are created by the researcher. Sandberg and Tsoukas (2011) highlight how temporary or complete breakdowns in this sociomaterial world make us aware of our world as being made up of separate and discrete actors and artefacts. They show how when a temporary breakdown occurs, we move from 'absorbed coping' to 'involved thematic deliberation' whereby our attention to the ongoing activity is more deliberate as focus is given to what is not available, that would ordinarily be there. At an organisational level, organisational routines offer an example of how our 'expectations are thwarted', which can lead to new experiences (Sandberg and Tsoukas, 2011:344). A complete breakdown moves us on from 'involved thematic deliberation' to one of 'theoretical detachment'. "When we become detached from our practical activity at hand, the relational whole in which we are involved withdraws and becomes inaccessible. Instead, what remains and becomes present in our theoretical detachment is our particular activity as an array of discrete entities." (2011:345).

I return to the work of Sandberg and Tsoukas (2011) on social entwinement and the awareness of breakdowns later in this chapter when discussing the identification of incidents and events and how I deal with the first order and second order breakdowns. The following section looks at practice theory as applied to project management.

4.4   Practice theory applied to project management

The work of the Rethinking Project Management Network (Winter et. al., 2006) firmly repositioned project management research 'from' the dominant apolitical, deterministic planning and control models 'towards' a more process, practice and practitioner focused bias that gave greater recognition to… "the ever changing flux of events, the complexity of social interaction and human action, and the framing and reframing of projects and programmes within an evolving array of social agenda, practices, stakeholder relations, politics and power." (Winter et al, 2006:644).

A number of authors have reinforced this orientation towards 'practice theory', such as Cicmil et al (2006); Blomquist et. al., (2010); Sergi (2012) and Floricel et, al. (2014). Floricel et, al. (2014) use the work of Nicolini (2013) on practice theory to put forward a case for moving from the traditional deterministic planning and control, rational choice models that seem to have induced a number of systemic project failures (Miller et al.,

2001), towards modern methodologies with a more practice-based assessment of projects that build on the theory of projects as temporary organisations (Lundin and Söderholm, 1995; Packendorff, 1995) and so a more socially relational perspective of projects.

Sergi (2012) also puts forward an alternative model to that of rational and planned change and proposes a case for merging a process ontology (Tsoukas and Chia, 2002; Hernes, 2008) and a project management-as-practice theory (Blomquist et al, 2010) together to look at 'situated action' in projects, suggesting it provides greater breadth and depth beyond simply integrating ideas from other fields, that it offers the opportunity to question the prescriptive norms of what are generally considered to be best practice (but not necessarily their outright rejection) and because it focuses on the sensitivity of the temporal nature of situated action, as presented in section 3.3 of Chapter Three.

As discussed in the previous section, I will return to the application of a practical rationality in identifying incidents and events in routines in sections 4.9 below. In the following section, in operationalising a process philosophy through practice theory, which predominantly has its roots in pragmatist thinkers such as Charles Sanders Pierce (Lorino, 2014), I explain this study as an abductive inquiry.

4.5 An abductive inquiry

This section sets out this study as an abductive inquiry, explaining it as an appropriate approach for understanding observed organisational phenomena, developing a hypothesis to initiate theory and supporting 'dialogic action' as the unit of analysis.

Van de Ven (2007) noted that deduction and induction construct and test theory, while it was the role of abduction to initiate theory, to represent this new plausible way of seeing the world. As I described in chapter one, this thesis has been for me a continuation of my process of discovery in having 'belief' in, but a sense of 'doubt' about (Locke et, al., 2008) the knowledge I had gained with regards to the planning and control of the project through the structure of the life cycle, having experienced the organisational phenomenon of managing a stage gate transition with incomplete information. Van Maanen et, al. (2007) suggest that "As a foundation for inquiry, abduction begins with an unmet expectation and works backward to invent a plausible world or a theory that would make the surprise meaningful" (2007:1149). In this study it is the unmet expectation that the rational, planned life cycle structure cannot provide the expected control for processing information and reducing uncertainty.

In developing the use of the chronotope in the organising inquiry, Lorino and Tricard (2012), using a pragmatist perspective of organising (Lorino, 2018) and building

specifically on the work of Pierce (Lorino, 2014), move from asking what 'kind of process is the organizing process'?, through an understanding of organising as a collective social process with a multiplicity of intertwined voices and actions, becoming understood as - 'what kind of inquiry is the organizing inquiry'?

This leads Lorino and Tricard (2012) to conclude that "abduction builds a new hypothesis when confronted with an unstructured, unintelligible situation. Abduction is the cornerstone of the inquiry. Whereas induction and deduction move between generic and specific manifestations of the same explanatory model, abduction is the only type of interference that creates new classes of meaning. Pierce stresses the narrative nature of abduction and inquiries: Abduction is about building a plausible narrative account of a situation, and the inquiry aims at formulating, developing, and testing this plausible story. Adopting this view, we can translate the question: 'What kind of inquiry is the organizing inquiry?' into 'What kind of narrative is the organizing inquiry?'" (2012:202). It is here that I therefore give further affirmation from the theoretical framework in Chapter Three that 'dialogic action' is appropriate as the unit of analysis, and the chronotope as a tool for identifying the dialogic categories of that action.

Having explained this study as an abductive inquiry, the following section provides an explanation of the type of ethnographic inquiry that I have developed and how I deal with some of the biases associated with such an approach.

4.6   An ethnographic study

Feldman (2016) explains how the theoretical shift towards routine dynamics (Feldman and Pentland, 2003) has been enabled by a methodological shift that has seen the use of ethnographic methods (Feldman and Pentland, 2008b) as a way of providing a greater degree of granularity in both the investigation and hence the analysis of routines (2016:28). This section explains how I develop an ethnographic approach by firstly discussing ethnography and its application to understanding construction projects. It then explains how I interpret Anderson's (2006) 'analytic autoethnography' for use in this study, before in the final section explaining how I arrive at the term 'organisational-auto-ethnography'.

4.6.1   Ethnography in construction project organising

The history and origins of ethnography lie in western anthropology in the later part of the 1800s, leading into its ever more common use in sociological studies in the early to mid-part of the 20th century, increasingly moving into different and varied arenas of investigation (Hammersley and Atkinson, 2007). Pink et, al. (2013) note the growing use of ethnography in construction and argue that its use as a methodology can help to

uncover some of the 'actualities' that go on in projects, something they argue is somewhat under theorised (2013:2). One of the characteristics of the construction industry discussed in Chapter Two, is the multiple relationships between the parties and the fragmented nature of the industry, and this they recognise as one of the key challenges in understanding the organising process from an ethnographic methodology. Indeed, even within the construction project itself, to be able to locate the (physical) action is a significant challenge as this is often spread over a number of separate spatial areas (geographic) and temporalities (Marshal and Bresnen, 2013). Although it needs to be recognised that any study is bounded by choices of what to observe and therefore what is not observed (Van de ven, 2007:206). I deal with these spatial and temporal challenges by bracketing the organisational boundaries of my inquiry and this is discussed further below.

With ever increasing uses of ethnography to investigate social settings, including organisations, recent efforts have been made to bring together an approach specific to the observation of people and cultures of and within organisations that has been termed 'organisational ethnography' (Neyland, 2008). In recognising that much of this organisational ethnographic work is reflexive, it never the less remains to some degree at arm's length of those being observed. Combined with the growth in autoethnography, this has led to what has been termed 'organisational autoethnography' (Parry and Boyle, 2009; Doloriert and Sambrook, 2012), which will be reviewed in more detail in section 4.6.3. Firstly, I deal with the origins of autoethnography through the work of Hayano (1979) and then present the work of Anderson (2006) who puts forward a variant of autoethnography entitled 'analytic autoethnography', which I demonstrate to be a methodology that provides a greater coherence to the theoretical foundations of an empirical study than a purely 'evocative autoethnography'.

4.6.2   Autoethnography

The latter part of the last century saw the growth of autoethnography, which was predominantly born out of the increasing challenge of gaining access to previous non-western environments and the growth of sociological studies by students of ethnic or social groups that were previously studied by outsiders (Hayano, 1979). With some quite distinct methodological challenges, it has nevertheless grown in usages that range along a spectrum with autobiographical at one end to analytic at the other (Ellis, 2004; Anderson; 2006), or what Anderson (2006) has termed 'evocative autoethnography' and 'analytic autoethnography'.

The work of Hayano (1979) can be seen as the founding of more modern autoethnography, dealing mainly with the methodological issues associated with

anthropologists studying their own people, which he terms auto-ethnography. He noted that, "In many ways, the problems of auto-ethnography are the problems of ethnography compounded by the researcher's involvement and intimacy with his subjects. In either case, critical issues of observations, epistemology, and 'objective' scientific research procedures are raised" (1979:99). When I presented my theoretical framework for my upgrade in October 2014, one response when discussing potential methodologies for exploring the concept of transition was that I could potentially explore the opportunity to undertake an autoethnography within the BSCU project, which I was managing at that time.

Hayano (1979) provides some definitions of the characteristics that define auto-ethnographic work, as derived from anthropology, namely: those that are distinctly from that social group, to those that "have acquired an intimate familiarity with certain subcultural, recreational, or occupational groups" (1979:100). While this forms a spectrum of work, Hayano (1979) is clear that participant observation from a group other than one's own would be excluded from the definition. Hayano (1979) highlights some of the paradigmatic problems of autoethnography, ranging from the degree of objectivity that a study takes to the degree of subjectivism, involving such issues as, 1) the position of the researcher when writing up; 2) the intensity of participation; 3) the relationship between the place of study and the group under study; 4) the extent of knowledge of the social group by the researcher; 5) the clarity of distinction between the role as researcher and natural group member; and finally, 6) the practical and theoretical problem chosen for empirical study, as defined by the researcher position in the group.

In order to be able to control these fragile elements of autoethnographic work, I draw on the work of Anderson (2006) who presents a model of 'analytic autoethnography' that helps to overcome some of those challenges and enhances the benefits. Anderson (2006) introduces the term 'analytic autoethnography' to counter the dominance, of what he cites Ellis (2004) as calling, 'evocative autoethnography'. "Put most simply, 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." (2006:375)

While Anderson (2006) recognises and applauds the work of those that dominate the theoretical paradigm of evocative ethnography, his concern is that such an approach "…may have the unintended consequence of eclipsing other visions of what autoethnography can be and of obscuring the ways in which it may fit productively in other traditions of social inquiry" (2006:374). Anderson puts forward what he considers

to be five key features of analytic autoethnography, namely: (1) complete member researcher status, (2) analytic reflexivity, (3) narrative visibility of the researcher's self, (4) dialogue with informants beyond the self, and (5) commitment to theoretical analysis (2006:378). I deal here with each one of these in turn, reflecting and critiquing these features to develop an autoethnographic approach to answering the research question presented in Chapter Three above.

Firstly, Anderson deals with the notion of what he terms Complete Member Researcher (CMR), stating that "being a complete member typically confers the most compelling kind of 'being there'" (2006:379). Anderson distinguishes between two types of CMR: 'opportunistic' where "group membership precedes the decision to conduct research on the group…Convert CMR's, on the other hand, begin with a purely data-oriented research interest in the setting but become converted to complete immersion and membership during the course of the research" (2006:379). I clearly position myself in the 'opportunistic' CMR camp. Although I should make it clear that I balance this against my case study selection (Yin, 2013; Eisenhardt and Graebner, 2007), whereby the primary purpose of the research was not autoethnography, but driven by seeking to understand the organisational phenomenon of managing a stage gate transition with incomplete information. The case study selection is discussed in section 4.7 below.

The discussion that Anderson then enters into is an interesting one for my own particular case. I recognise that as autoethnographers we carry an alternative persona that embeds us in a social science community as well as the community we are observing and that this leads to a dual role of participating in as well as documenting what we are participating in and observing. Yet we can't surely deny that other members engaged in project organising aren't also engaging in a form of autoethnography, observing and making sense of (either informally or via their own professional perspective and education) what is happening within the observed situation. So, while as autoethnographers, our second (or primary) focus is on documenting and analysing the situation at hand, we shouldn't think that others are not doing similar, but perhaps not from a formal methodological social scientific basis. Nor should we assume that our own minds are wholly focused on the social scientific aspects of the situation but also drift to our own personal external worlds that occupy our social minds outside of the social setting we are observing.

So, for example, I recognise what Anderson suggests in his example of the 'plane ride to jump altitude' as being his time to focus on documenting (mentally) what is 'happening', while others are thinking more of the jump itself. This is a large assumption that practitioners are not self-reflective and observant of their situation in a similar but

different way. Similar in the sense that in making sense of the future (the jump that is about to happen) they are also observing in an informal way through a process of sensemaking or sensegiving through the actions and behaviours of others in the group. The 'formal' autoethnographer is no doubt doing this more formally, as Anderson notes, "The autoethnographer is a more analytic and self-conscious participant in the conversation than is the typical group member, who may seldom take a particularly abstract or introspective orientation to the conversation and activities. But the autoethnographer's understandings, both as a member and as a researcher, emerge not from detached discovery but from engaged dialogue" (2006:381). I have made some explicit methodological particulars to cope with or indeed enhance my autoethnographic study such as the way I dealt with my auto-ethnographic diary, which is described in Chapter Five.

The second part to Andersons model is that of 'analytic reflexivity'. Anderson explains that at a deep level "…reflexivity involves an awareness of reciprocal influence between ethnographers and their settings and informants. It entails self-conscious introspection guided by a desire to better understand both self and others through examining one's actions and perceptions in reference to and dialogue with those of others." (2006:382) Anderson suggests that while there is reflexivity in mainstream ethnography, it has predominantly been outward in explaining an understanding of one world to others outside that world. However, with autoethnography there is more of what he terms a 'mutual informativity' in the process that makes autoethnographic work more appealing.

As he proposes about autoethnographers, "Not only do they 'form part of the representational process', but they are in part formed by those processes as the cultural meanings they co-create are constituted in conversation, action and text…there is a shift to more obvious and potentially deeper informative reciprocity between the researcher and other group members…one has more of a stake in the beliefs, values, and actions of other setting members. Indeed, the autoethnographic interrogation of self and other may transform the researcher's own beliefs, actions, and sense of self" (2006:383). In addition to this, from a management and organisation perspective as the CMR, I have an active stake in not just the beliefs and values but also the formal accountability for those that I am observing in the sense of the formal authority that I carry within the organisational setting, within the legal framework discussed in Chapter Two.

The third element to Andersons framework is that of 'visible and active researcher in the text'. Although not exclusively, Anderson argues that mainstream ethnography does not generally include the ethnographer's voice as a visible one within the text due to its primary representation being that of the 'other' to 'others'. On the other hand, "A central

feature of autoethnography is that the researcher is a highly visible social actor within the written text. The researchers own feelings and experiences are incorporated into the story and considered as vital data for understanding the social world being observed…such visibility demonstrates the researcher's personal engagement in the social world under study…vividly revealing themselves as people grappling with issues relevant to membership and participation in fluid rather than static social worlds" (2006:384)

In my study, I am a very active member, in fact the meetings recorded are the ones that I chair, co-chair or report into and therefore have a leading part to play in not just orchestrating a sense of meaning, but also in providing some degree of finality to how the meaning of what is actually happening now will be translated into potential practice in the future and this is bounded by my authorities delegated down through the legal framework discussed in Chapter Two.

Not all decisions, actions or outcomes may be desirable (and indeed the data and my diary would suggest as such), but my own professional career was at stake and therefore it was very difficult to bias the sense of that meaning, (1) because I was in a contractual and collaborative working environment where decisions were made jointly, (2) I did not have full authority over decisions made as I was accountable to a formal public sector governance system that has an assurance regime that I was subject to (see Chapter Two), (3) my own future professional career and the subsequent benefits I get from the project performing well, lead me to comply with and perform well within the formal corporate governance structure. Autoethnographers "…must textually acknowledge and reflexively assess the ways in which their participation reproduces and/or transforms social understanding and relations" (Anderson, 2006:385), and so it is also for this reason that I have selected to write parts of this thesis from the genre of the post-structuralist tale (van Maanen, 2011).

The fourth element of the framework is in alignment with the discussion on dialogism presented in section 3.2 above (Holquist, 2002), and is that of 'dialogue with informants beyond the self'. The ethnographic imperative to seek to understand others is equally shared with the imperative to have dialogue with these others and their associated data, while seeking to try to understand them and indeed in sharing this understanding with others. In this light, Anderson suggests that ethnographic reflexivity "is more appropriately understood as a relational activity" (2006:386). Herein lies one of the fundamental differences with 'evocative autoethnography'. I predominantly undertook this 'ethnographic reflexivity' with the participants of the study in interviews two and three, which will be explained in Chapter Five below. Indeed, in certain circumstances,

participants both under and not under my control engaged heavily in this reflexivity, some seeking personal perceptions from myself of them and the project.

The fifth and final element of the framework is a 'commitment to an analytic agenda', meaning that analytic autoethnography is more than just writing about personal experience or an insider's view. "Rather, the defining characteristic of analytic social science is to use empirical data to gain insight into some broader set of social phenomena than those provided by the data themselves" (2006:387). Anderson does pay recognition to certain views that suggest any narrative is analytic because it selects specific texts that it feels relevant to representing some form of social phenomena that has meaning to self and others. But analytic autoethnography, Anderson suggests, goes beyond simply representing 'what is going on' (2006:387) - "I use the term analytic to point to a broad set of data-transcending practices that are directed toward theoretical development, refinement and extension" (2006:387). It therefore offers the opportunity to add value by not just, as truthfully as possible, representing the social world as it is, but also extending this representation to broader generalisations through its analysis against preceding theoretical assumptions, that could be argued are there to be challenged (Alvesson and Sandberg, 2013). Anderson closes this element by making it clear that this does not mean that analytic autoethnography shifts so significantly towards a positivist conclusion of what he cites Ellis and Bochner (2000:744) as calling 'undebatable conclusions', "But analytic autoethnography does contribute to a spiralling refinement, elaboration, extension, and revision of theoretical understanding" (2006:388).

As with any form of empirical social inquiry, analytic autoethnography has both advantages and limitations. One such advantageous position is that the researcher is closer to the data both in terms of its meanings and access to it. 'Living and breathing', so to speak, both the act of observation and participation allows for both sensegiving and sensemaking in real time, an opportunity to interact with data and theory almost simultaneously. In this study, in certain situations I have been known to openly reflect on my interpretation of what the theory is espousing and equally I have been able to develop management products that directly build on theoretical constructs such as scenario analysis (Sanderson, 2012) and cooperation and coordination (Söderlund, 2012). Of course, the challenge is to neither become so saturated in theory that one loses sight of one's role in the practical management of the organisation, but equally to not become so engaged in practice that one loses sight of the need to act as a researcher on a continuous basis through the course of the study. This in itself is a real challenge and one I have perhaps fallen foul of on both counts at certain stages of this study.

One of the limitations is that not all social science researchers, for many reasons, can be (or indeed should be) autoethnographers and Anderson provides some examples of these. Yet the opportunity that is offered as a part-time PhD student and the guidance given by the analytic form of autoethnography, offers an opportunity to use and potentially extend this methodological development in the social sciences.

In this section I have explained the approach to autoethnography as a methodology, following the 'analytic autoethnography' offered by Anderson (2006). In the next section I extend this thinking towards organisational autoethnography

4.6.3   Organisational autoethnography

Building on the work of Anderson (2006) described above, developing it further into organisational autoethnography offers the chance to look beyond the 'auto'. As Boyle and Parry (2007) present in their case for organisational autoethnography - "We contend that the prime focus of an organizational autoethnographic study is to illuminate the relationship between the individual and the organization in a way that crystallises the key conceptual and theoretical contributions to understanding the relationship between culture and organization" (2007:185).

They identify three particular areas where organisational autoethnography can 'enrich' our understanding of organisational life. "First, this approach has the ability to connect the everyday, mundane aspects of organizational life with that of broader political and strategic organizational agendas and practices. Second, we propose that autobiographical and retrospective approaches are more likely to unearth and illuminate the tacit and subaltern aspects of organization." (2007:186) Thirdly, while recognising there is no perfect methodology, they accept that autoethnography has its own problems and can 'expose' the individual in ways that other ethnographic or organisational methods do not, which has been predominantly dealt with through the work of Anderson (2006) above.

Boyle and Parry (2007) offer an interesting perspective between the specificity of autoethnographic work and the desire for organisational studies to be more generalisable through larger participant studies, and which also supports the selection of a single case study, in that the "…major contribution organizational autoethnography can make to the study of organization and culture lies in the very meaning of the word 'ethnography'. Whether one reads the write-up of a worldwide survey where n = 20,000 and the findings are generalisable, or one has read an autoethnography where n = 1, and the findings are substantive to the experience of just one person, how the findings are reported influences the impact of the original piece of research…We would suggest that the critical 'n' factor in much organizational research is the number of people who

read the research, rather than the number of people who are the subjects of the research" (2007:188).

In undertaking such a methodological approach as organisational autoethnography, Doloriert and Sambrook (2012) note that the nature of the organisational autoethnographic approach needs to be clear on the specific focal orientation of the study. Building on Anderson (2006) and Boyle and Parry (2007) and taking due cognisance of the authoritative position I carry within the temporary organisation, this study therefore has been developed to be termed an 'organisational-auto-ethnographic' study, where the hyphens are emphasising the focus on the organisation, recognising my practitioner status as the researcher, and situated within the 'ethnos' being studied.

In the following section, I justify my reasoning for using a case study and for specifically selecting my own project as the case study for this empirical inquiry.

4.7   A case study approach

The BSCU project case study itself that was explained in Chapter One warrants selection (Van de Ven, 2007:212) and meets the criteria for the 'how' and 'why' question and single case study research (Yin, 2014; Eisenhardt and Graebner, 2007). An award-winning project, it exemplifies the 'management of projects' paradigm (Morris, 1997), the use of innovation in developing project capabilities through the novel procurement approach (Davies and Brady, 2016) and its timings allowed for the empirical organisational-auto-ethnographic investigation of an organisational 'transition' from one sequential stage to the next.

The day-to-day phenomena influencing routines is suggested to be best derived from the observation of 'contemporary events' and the collection of historical data (Pentland and Feldman, 2008b). The 'how' and 'why' form of research question lends itself to case study research and single cases are best chosen where they offer the opportunity of interesting access, to reveal phenomena that would develop associated theoretical constructs (Yin, 2014; Eisenhardt and Graebner, 2007).

Selecting an organisational-auto-ethnographic methodology does not automatically equate to the selection of the researcher/practitioners site of investigation as being appropriate. To develop theory from cases, Eisenhardt and Graebner, (2007) suggest that "…cases are selected because they are particularly suitable for illuminating and extending relationships and logic among constructs…[single cases] are chosen because they are unusually revelatory, extreme exemplars, or opportunities for unusual research access" (2007:27). The BSCU project meets these criteria in that it exemplifies the 'management of projects' paradigm established by Morris (1997, 2013) by seeking to

transcend the development and delivery stages of a project through the introduction of what became an award winning and novel procurement methodology focused primarily on the creation of value for the project sponsor (Morris, 2013).

At the time of seeking to collect data, as explained in Chapter One, the project was planning to seek additional financial and regulatory authority, by a pre-defined fixed date, to transition from the design phase into the construction phase, within the legislative framework explained in Chapter Two. The project was seeking to build on 'patterns', 'performances' and 'artefacts' that were established some three years prior in the innovative procurement stage. This was through the adoption of a non-contractual 'management protocol' that created the senior management structure of the project, alongside the relational contract between the client and the contractor, these being the two key 'artefacts' to the relationship, as explained in Chapter One.

This study is focused on observing the 'senior management' team in managing the '*transition*' from design to construction. This organisational structure of the senior management team will provide the boundary within which the organisational-auto-ethnographic study will take place. The organisational boundary was as defined in the management protocol. Chapter Five explains further the technical constraints with respect to undertaking an organisational-auto-ethnography, and the specific meetings recorded and why. In addition, in order to help understand the spatiotemporal nature of agency (Emirbyer and Mische, 1998), their perceptions of causal relations (Lundin and Söderholm, 1995), I collected time data for each participant and again, this is discussed in more detail Chapter Five.

In this section I have explained the reasoning for using a case study approach and why the BSCU project I was managing warranted selection as a case study in its own right. In the following section I draw on the work of Pentland and Feldman (2008b) in understanding the identification and comparison of organisational routines before I return to the work of Van de Ven (2007) in measuring and analysing process data.

4.8   Identifying organisational routines

This section follows closely the work of Pentland and Feldman (2008b) in seeking to understand how to identify organisational routines. They suggest that because routines can be conceptualised as generative, then this conception makes them difficult phenomena to study, most notably due to the difficulties in defining the boundaries of a routine as they are distributed in both space and time. As discussed in section 3.5, three key aspects of a routine exist: the ostensive, performative and artefact (Feldman and Pentland, 2003). "These aspects are distributed in time and space: different participants

perform different parts of a routine. This simple fact forces us to choose a particular point of view when studying routines, because we cannot see the whole thing" (Pentland and Feldman, 2008b:287). The issue of a particular point of view is dealt with later in this section. Pentland and Feldman (2008b) suggest that the 'concreteness' around what an organisational routine is, forces the materialization of two key questions: "identifying the boundaries of the phenomenon, and establishing a way to compare one instance with another" (2008b:290).

For identification, spatial boundaries may well be observable to a degree, perhaps via artefacts, but temporal ones are more difficult. Pentland and Feldman (2008b) propose therefore that the place to start is the ostensive aspect of the routine. "The ostensive aspects provide the abstract ideas that allow the participants and researchers alike to recognize particular actions as part of a coherent whole; it allows us to recognize patterns (and deviations). It allows us to interpret the significance of particular artefacts that may relate to a particular routine" (Pentland and Feldman, 2008b:291).

They propose two approaches to identifying boundaries. The first is to identify the intended outcome of the routine, an emic perspective. The second is to identify particular actions or events that make up the routine, an etic perspective. 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 and Feldman, 2008b:293). Both approaches have their benefits in resolving the nature of routines as variable and ambiguous, however, in taking dialogic action as the unit of analysis, Holquist (2002) suggests that "Conceiving being dialogically means that reality is always experienced, not just perceived, and further that it is experienced from a particular position" (2002:21), then an 'emic' approach is the preferred option for this research design and is used to help design the phase 1 interviews described further in Chapter Five.

Comparison is important for undertaking empirical research on organisational routines. Pentland and Feldman (2008b) make reference to options associated with both synchronic (cross-sectional) and diachronic (longitudinal) analysis. Both are capable of observing all three aspects of the routine, however, synchronic studies are limited in their ability to see changes in a routine over time and are perhaps more suited to the comparison of a routine(s) in multiple cases at a point in time. In order to observe changes over time, then longitudinal studies are necessary. Diachronic studies offer the opportunity to observe the mutual relationship between the three aspects of the routine. "Because these studies involve a lengthy commitment to study one setting and the actions of the people in that setting, they confront the researcher with evidence of the

mutual relationship between these aspects of routines" (Pentland and Feldman, 2008b:294).

Pentland and Feldman (2008b) also make reference to the opportunity to undertake 'off-diagonal' comparisons, such as between the ostensive/performative or performative/artefact, rather than just ostensive to ostensive, and this has been further exemplified by Feldman's (2016) more recent work on understating the internal structure and 'patterning' of routines that was discussed in Chapter Three. As this research design seeks to answer the question of 'how patterns of action are (re)created', then a diachronic study is the most appropriate and I further develop Van de Ven's (2007) guidance and include practical events associated with the 'transition goal' of each routine as well as the 'chronotopic' structure of each routine (discussed in the following sections), both to help in their identification and comparison and as a way of exploring the 'off-diagonal' relationality between the different routine aspects, within and between the transition routines that are identified.

This section has set out how I intend to identify the routines from an emic perspective and observe them diachronically in order to be able to compare them. This will be supported with off-diagonal comparisons through the identification of practical events associated with each routine and the categorical narrative structure of each routine in the form of the chronotope. The following section builds on the work of Van de Ven (2007) and discusses the identification of incidents and events.

4.9   Identifying incidents from ethnographic data

Having described the strategy for the identification and comparison of routines, most specifically the ostensive aspect of the routine from an emic perspective, in this section I describe the strategy for the identification of incidents within the data that will be used to develop the performative and artefact aspects of the routine.

In van Maanen's paper entitled "The Fact or Fiction in Organizational Ethnography" (1979), his objective is to reduce the confusion between what the researcher experiences while in the field, and their subsequent ability to link this to empirical discovery and conceptual development. To reduce this confusion, Van Maanen (1979) sets out what he calls 'first-order' conceptions and 'second-order' conceptions. "Put simply, first-order concepts are the 'facts' of an ethnographic investigation and the second-order concepts are the 'theories' an analyst uses to organize and explain these facts" (1979:540). van Maanen discusses the challenges of understanding the relationship between first- and second-order concepts and suggests that the researcher must employ 'consciously selected strategies' (1979:541) to build these second order

concepts, as well as the first-order concepts being sufficiently accurate in their description.

In selecting the strategy for this study, I turn back to the work of Van de Ven (2007), where in his chapter on measuring and analysing process data, he sets out a process for the measurement and analysis of qualitative process data. The first step is the development of a set of categories or concepts and for this thesis it is the concept of 'transition', as defined by Lundin and Söderholm (1995) and developed by Jacobsson et, al. (2013) with the perception of causal relations between project participants being understood as built from 'dialogic action'.

Within a process research design, it is then the identification of incidents and events, which are important to differentiate, in the same way that van Maanen (1979) differentiates between first- and second-order concepts. Van de Ven (2007) describes the difference as follows: "Incidents are operational empirical observations, while events are abstract concepts of bracketed or coded sets of incidents. The stream of incidents, a directly observable first-order set of activities, is translated into a sequence of events, more abstract second-order construction" (2007:217).

Firstly, Van de Ven (2007:218) notes that the way to define an incident is through what he calls a qualitative datum. "We define a qualitative datum as: (1) a bracketed string of words capturing the basic elements of information; (2) about a discrete incident or occurrence (the unit of analysis [dialogic action]); (3) that happened on a specific date; which is (4) entered as a unique record (or case) in a qualitative data file; and (5) is subsequently coded and classified as an indicator of a theoretical event…The basic element of information in a qualitative datum is a bracketed string of words about a discrete incident. Raw words, sentences, or stories about incidents that are collected from the field or from archives cannot be entered into a qualitative data file until they are bracketed into a datum(s). Obviously, explicit decision rules that reflect the substantive purposes of the research are needed to bracket raw words" (2007:218). The decision rules used in this study are discussed later in this section.

Following this identification of incidents and, as Van de Ven advises for an abductive inquiry (2007:220), I should return to the raw data and following Langley (1999), I can then use both 'visual mapping' and 'temporal bracketing' to construct 'abstract' events derived from the incidents to identify the underlying generative mechanisms and so develop a process model of change. "Since the temporal sequence of events is a central organizing device for process data, this next step typically consists of identifying the order and sequence of events from observed incident data" (2007:220). This method of bracketing data ex post, stands in contrast to bracketing planned tasks ex-ante, as

discussed in section 3.4 in the sequencing concepts of Lundin and Söderholm (1995). Using such a method within an interpretive paradigm offers an opportunity to explore the efficacy of the ex-ante planning and control, stage gate, life cycle model prescribed from the professional bodies of knowledge that have predominantly been drawn from an opposing epistemology (Pollack, 2007).

In seeking to identify first order incidents within identified organisational routines (Pentland and Feldman, 2008b) and then move from incidents to second order 'abstract' events (Van de Ven, 2007) or second order concepts (van Maanen, 1979), I have added an additional stage in the measurement and analysis process from 'practice theory' (Sandberg and Tsoukas, 2011).

As described in Chapter Three, both temporary organisations and organisational routines must have a purposeful goal, this is the 'task' concept within a temporary organisation, and the 'normative goal' in the 'guiding' element of the ostensive aspect of the routine (Lundin and Söderholm, 1995; Jacobsson et, al., 2013; Feldman and Pentland, 2003). In addition, as described on the identification and comparison of routines, the boundaries of a routine are difficult to capture as they extend across multiple spaces and times. This study therefore adds a stage in this process by identifying a 'practical' event associated with each identified routine. By adding this stage into the measurement and analysis process, I can help to 'tighten' these boundaries and focus more specifically on incidents directly associated with a practical event that is directly associated with achieving the goal of the transition routine.

Here I return to the work of Sandberg and Tsoukas (2011) discussed in section 4.3 and build to identify a practical event associated with a transition routine, and set out some of their basic concepts of moving from a scientific rationality to a practical rationality. "The framework of practical rationality developed above suggests two interrelated major breaks with scientific rationality: (**1**) a shift from entities as the point of departure to entwinement (namely, focusing on investigating the relational whole of specific sociomaterial practices) and (**2**) a shift from scholastic attitude of theoretical detachment to involved thematic deliberation (namely, focusing our research attention on temporary breakdowns). Each one of these shifts represents a distinct strategy for accessing the logic of practice…" (2011:346)

Firstly, in searching for entwinement, they suggest that there are five components to be followed, namely: 1) using social entwinement as the point of departure; 2) focus on what people actually do to reveal patterns; 3) zooming in on action; 4) exploring standards of excellence within that practice, and 5) zooming out to wider practices. Although they

don't suggest for the need to use all of these strategies and in this thesis elements of each are drawn on when describing the decision rules below.

Secondly, in searching for temporary breakdowns, Sandberg and Tsoukas (2011) suggest that they "…are treated as openings for accessing the *significance* of the internal workings of a practice. The purpose is to let the practice reveal itself through the moments it temporarily breaks down - namely, moments when things do not work as anticipated. We identify two kinds of breakdowns: first-order breakdowns and second-order breakdowns. The former emerge in organisational practices themselves, whereas the latter are created by the researcher after entering a practice." (2011:347-348). In this study, I primarily deal with the first-order breakdowns. It was not the intention of this research design to specifically create breakdowns in order to highlight practice. However, as I will discuss below, the nature of my organisational-auto-ethnographic approach suggests that I enter into the realm of these second order breakdowns through reflections with participants to the study (Anderson, 2006).

Firstly, the first-order breakdowns are naturally occurring breakdowns and as discussed above they move participants from 'absorbed coping' to 'involved thematic deliberation'. Sandberg and Tsoukas (2011) describe how searching for these breakdowns involve three phenomena, namely: 1) "*Thwarted expectations*. Expectations are thwarted when a practice is disrupted because unintended consequences emerge, new realisations come about, or standards of excellence are not met" (2011:348); 2) "*Deviations and boundary crossings*. Deviations emerge when new discourse items are introduced or new actions appear" (2011:349); 3) "*Awareness of differences*. Absorbed coping may be temporarily disrupted when practitioners become aware of different practices (or the possibility of different practices)" (2011:349). These breakdowns are incorporated within the decision rules described below.

With respect to second-order breakdowns, there are two approaches. The first is associated more directly with action research and the second refers to "postmodern scholars who, through high-involvement research designs, seek to help practitioners unearth their unquestioned assumptions and reflect on them critically." (2011:350). This research design could be suggested to fall within this latter category as both pre-data collection and more specifically during data collection, I interacted with the participants beyond simply my formal role in managing the project, but also interacted with them in terms of the knowledge I was gaining during the process, and where I specifically drew on theory to help develop the organisational capability and this is drawn out in Chapter Six when I present the findings.

In discussing second order breakdowns, it shows how the methodology for this study sits on the boundary between action research, high involvement research and autoethnography, because merely asking detailed and concrete questions about what practitioners do and how they accomplish their work temporarily disrupts practitioners' absorbed coping and throws them into a mode of deliberation. Although I did not 'deliberately' create breakdowns, by placing myself as the practitioner/researcher, the 'auto' in organisational-auto-ethnography, I can't help but be engaged in some form of second order breakdowns, especially during the second and third interviews that will be discussed in Chapter Five. In fact, as discussed by Anderson (2006), such interaction should be acknowledged and used as a tool in analytic autoethnography.

To create decision rules for practical events and their first order incidents, I blend together the work of Van de Ven (2007), Pentland and Feldman (2008) and Sandberg and Tsoukas (2011) to develop the following:

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

- Identify the 'goal or purpose' of the organisational routine in 'transition';

- Identify a 'practical event' associated with the routine i.e. activities to be completed by or in advance of the ex-ante defined 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;

- Represented 'sociomaterial entwinement' through a series of interdependent actions, by multiple participants;

- Identify incidents, dialogic action, within practical events, over time and within a specific sociomaterial practices;

- Bracket incidents by their topic into specific groups of 'dialogical utterances', at specific times of the transition, within the boundaries of the specific sociomaterial practice.

The events selected are presented alongside each of the identified emic routine perspectives in Chapter Six, with the detailed incidents included in Appendix D, which acts as the data file discussed above (Van de Ven, 2007).

In this section I have described the process developed to identify first order 'incidents' and 'practical events' to help identify and compare organisational routines as a first step towards identifying the underlying generative mechanism involved in the transition across life cycle stages.

As discussed in Chapter Three, the chronotope as developed by Lorino and Tricard, (2012) offers an opportunity to provide further granularity to dialogic action as the unit of analysis and how this is used is described in the following section.

4.10 Chronotope as a narrative categorical tool

Chapter Three presented dialogic action within the concept of transition as the unit of analysis and dialogism and the chronotope as a way of categorising this dialogic action to help understand the relationality of action within and between routines. In Chapter Five, section 5.3, I will discuss how I arrived at the chronotope as an analytical tool. In this section, I deal specifically with how it is used within this methodology.

The work of Lorino and Tricard (2012) is applicable to this thesis for two reasons. Firstly, it empirically applies the structure of the chronotope to the study of organisations from a process ontology of organising viewpoint, therefore fitting with the ontological position presented in Chapter Three. Secondly, the empirical site that Lorino and Tricard (2012) used was that of the construction industry, explained as the industrial setting for this study in Chapter Two. Provided below in table 4.1 is a definition for each category that has been adapted from the reading of Bakhtin (1981), Holquist (2002) and most specifically the interpretation of Lorino and Tricard (2012:213-214).

	Transition chronotope data
Temporal frame	Objective and subjective indicators of time within the practical event for each routine
Spatial frame	The physical geographical space within which the routine is enacted.
Meaning-making principles	The structural characteristics of the ostensive aspect of the routine derived from the legislative framework
Roles and characters	The participants to the routine
Values	The behavioural values and beliefs espoused by participants
Crossing character	Relational aspects between the identified routines
Tooling	The artefacts associated with routine enactment
Boundaries	The perceived boundaries of the practical event for each routine

Table 4-1 - Description of routine narrative categories (adapted from Lorino and Tricard, 2012)

For each identified organisational routine and to support the analysis of dialogic action, a chronotope structure, in the form of the table above, will be developed from the identified incidents and practical events for each routine. As discussed above in Chapter Three, it is proposed that this will provide greater granularity to the structural categories

of the dialogic action, so as to help understand better the relationality of action within and between organisational routines (Feldman, 2016; Feldman et, al., 2016).

In the following section, I move on to describe how I develop the abstract events from the 'incident' and 'practical event' data, the second-order concept (van Maanen, 1979).

4.11 Narrative of abstract event sequence

Having set out above the approach to identifying routines, incidents and practical events, this section explains the approach to developing the abstract event sequences that form the foundation of the 'process model of transition'.

Following the identification of routines, incidents and events, the study will follow the approach of Langley (1999) and use both visual mapping and temporal bracketing to set out the incidents over time. This will be set out against the milestones explained in the case study in Chapter One and the four weekly business rhythm that will be explained further in Chapter Five. These objective, clock time markers will act as the base framework for this mapping and bracketing exercise, but to help identify abstract event sequences, the work of van den Ende and van Marrewijk (2014) will also be used to assist in the identity of the abstract event sequence, through the identification 'transition rituals'.

In parallel with developing the abstract event sequence, in order to understand the generative mechanisms underpinning the abstract events, it will be necessary to be able to move beyond simple surface descriptions, as Van de Ven (2007) describes: "Thus, as we move from surface observations toward a process theory, we move from description to explanation. Explanation requires a story, and stories can be understood as process theories (Pentland, 1999). In narrative theory, the story is an abstract conceptual model; it identifies the generative mechanisms at work" (2007:223).

Therefore, in addition to the categorical structure of dialogic action in the form of the chronotope (Lorino and Tricard, 2012), for helping to develop the abstract event sequence the study will follow Van de Ven (2007) and use the work of Pentland (1999) to help build the narrative and is explained in the following paragraphs:

Sequence in time - "Event sequence is part of the fabula - deep structure - of a story. The surface structure of a narrative need not present events in sequence; events frequently are rearranged for dramatic effect…But chronology is a central organizing device" (1999:712).

There were three phases of data collection from pre-transition, transition, to post transition, structured around the predefined dates for transition and spread across

thirteen four week accounting periods, as I will describe in Chapter Five. I will seek in the narrative to blend this chronology with the story of the transition, which will be structured in the categories of the chronotope. This is presented in section 6.2 of Chapter Six.

Focal actor or actors - "Narratives are always about someone or something … There is a protagonist and, frequently, an antagonist as well. The characters may not be developed or even identified by name, but, along with sequence, they provide a thread that ties the events in a narrative together" (1999:712).

The focal actors are the senior management team and the three organisational units within the senior management structure. Other team members, organisations and stakeholders will be brought into the narrative as necessary. These will be explained in more detail in Chapter Five.

Identifiable narrative voice - "… there should always be an Identifiable voice doing the narrating ..." (1999:712).

As this is an organisational-auto-ethnography and following Hatch (1996), I am the main character who will tell the story. I will touch further on writing process studies in the final section of this chapter, but as explained in Chapter One, I have predominantly sought to present this thesis in post-structuralist genre (van Maanen, 2011) .

'Canonical' or evaluative frame of reference – "Narratives carry meaning and cultural value because they encode, implicitly or explicitly, standards against which actions of the characters can be judged" (1999:712).

I will seek to draw out the sociomaterial beliefs and values distinct to the BSCU project and that were founded in the novel procurement approached explained in Chapter One. I will seek to do this within the identified organisational routines, their associated practical events and the transition narrative in Chapter Six.

Other indicators of content and context – Pentland notes that narratives "… contain a variety of textual devices that are used to indicate time, place, attributes of the characters, attributes of the context, and so on. These indicators do not advance the plot, but they provide information that may be essential to the interpretation of the events" (1999:712).

Some of these characteristics have already been presented in the case study in Chapter One and the wider industrial and organisational context in Chapter Two. Chapter Five will explain some of these characteristics in further detail and the analysis in Chapter Six will be supported with the transition narrative and the chronotope tables for each routine.

This section presented the final element of the process research design (van de Ven, 2007) - the temporal bracketing, visual mapping and narrative (Langley, 1999; Pentland, 1999; van den Ende and van Marrewijk, 2014). The following section will briefly touch on some points regarding writing process studies, as this forms a part of the abductive analysis process that will be set out in section 5.3 of Chapter Five.

4.12 Writing process studies

Chapter Three drew on dialogism (Holquist, 2002) and the work of Mikhail Bakhtin. Cunliffe et, al. (2014) discuss how Bakhtin's work offers an opportunity to discover a new way of writing about the lived experience that matches a process ontological and a practice epistemological position. It could also be argued that it supports writing in the genre of a post-structuralist tale (van Maanen, 2011), specifically associated with the concept of 'transition' and its sense of 'ongoingness' (Shotter, 2008), in that it avoids a simply retrospective account and is oriented more towards the novel.

"The sense of novel is inconclusive and emergent, for it demands continuation and no final word, and its goal is rethinking and re-evaluating the future…This is a polyphonic way of understanding a text, in which a multitude of different, even competing, meanings of a text is possible…In short, the text has to live on the boundary between what is made and what is still in the making, in such a way that it provides space for the readers own response in reading. This means to transcend the search for ultimate answers and pre-packaged contributions and, instead, pay attention to how it is possible to create meetings between voices - voices of those in the field, of the reader and of the author." (Cunliffe, et al, 2014:345-6)

This is a difficult task, especially I would suggest for a doctoral study. Yet as an abductive study and an organisational-auto-ethnographic methodology, I have tried to bridge the theory-practice divide and bring the reader into the experience of not just undertaking a doctoral study, but in managing the project and the general feeling of '*incompleteness in transition*' and so what is '*not yet known'* or '*still in the making'*.

To help me understand how to write in this 'genre', I have drawn on the work of van Maanen (2011) in terms of a post-structuralist tale, Hatch (1996), where I am the main character telling the story, being both the 'voice' (who says) and 'perspective' (who sees) although in doing so, I hope to have given some 'voice' and 'perspective' from the 'other' participants in the study. Building on the guidance from Pentland (1999) that was discussed in the previous section, I have sought to follow Jarzabkowski et, al. (2014) in producing in Chapter Six what I hope will be considered a 'composite narrative' in describing the case study, the ostensive and performative aspects of the routines and

the stages of the 'recursive process model of transitioning'. "Composite narratives are particularly evidential because, in drawing upon the full breadth of ethnographic data collected and assembling them more efficiently into an evocative story or the underlying patterns identified, they provide greater conceptual generalisability" (Jarzabkowski, et al., 2014:281).

4.13 Summary

This Chapter Four has presented the methodology for the capture and analysis of empirical data in order to answer the research question presented in the final section of Chapter Three. It firstly summarised the overall approach before explaining how this study used 'practice theory' to operationalise a process philosophy. It then set out my autoethnographic position, before justifying the selection of the case study. Following that, it explained the identification and comparison of routines and how I would use practice theory to help identify 'incidents' and 'practical events' within organisational routines, alongside the chronotope as a tool for identifying categories of dialogic action within and between organisational routines. It then described the strategy for converting these 'incidents' into 'abstract event' sequences, before rounding off with my approach to writing this thesis as a composite narrative from the voice of the author.

The following section discusses the data collected, the processes gone through in collecting it and the abductive process I went through in developing the theoretical framework and analysing the data.

5 Chapter Five - Data collection and analysis

5.1 Introduction

This chapter provides an explanation of the types of data collected, how it was collected in consideration of the autoethnographic approach described in Chapter Four and the abductive process of analysis that I undertook. The first section looks at the timing of the data collection, the organisational boundary of the study, the management meetings which were recorded, my organisational-auto-ethnographic diary, the artefacts collected and the participant interviews that I undertook. Section 5.3 will provide a narrative on the abductive process I went through.

5.2 Data collection

In summary, I collected in excess of one hundred and seventy five (175) hours of audio recording from over one hundred and thirty (130) meetings, I undertook seventy nine (79) interviews and my autoethnographic diary exceeded one hundred and seventy thousand (170,000) words, averaging over three thousand two hundred (3,200) words every week.

5.2.1 Time period for data collection

Data collection was over a fifty three 53-week period. LU (the client) structured its accounting and reporting system over a four-week period, with thirteen (13) periods per financial year, which formed the basis of the 'business rhythm'. This study commenced in period four (July) of financial year 2015/2016 and completed in period three (June) of financial year 2016/2017. I have structured the presentation of the data around this business rhythm and provided a summary of the periods, weeks and data collected within them in Appendix A (interviews) and Appendix B (meetings).

5.2.2 Organisational boundary

Building on the discussion in section 4.6, the primary concern with regards to the organisational boundary for the study was the adverse effects on the behaviour of participants due to the authority and power of myself as the clients' project manager. In addition, it was the time I had available, over and above my day to day management of the BSCU project. It was important then to provide a clear organisational boundary, and for this reason the study was limited to the organisational units and members that I had direct responsibility and accountability for, which was the senior management team as defined in the projects' management protocol.

As I explained in the case study in Chapter One, the management protocol was a non-contractual, non-binding document that sat alongside the formal contract between the

client and the contractor. It supported our efforts as a project team in collaborating together, something that was highlighted in Chapter Two as being an important feature of the environment of the construction industry because of the high levels of interdependency between the organisations involved in the project. The main governance structure from the management protocol is depicted in a simple format in figure 5.1 below. The dotted red line being the boundary to the organisational units under observation.
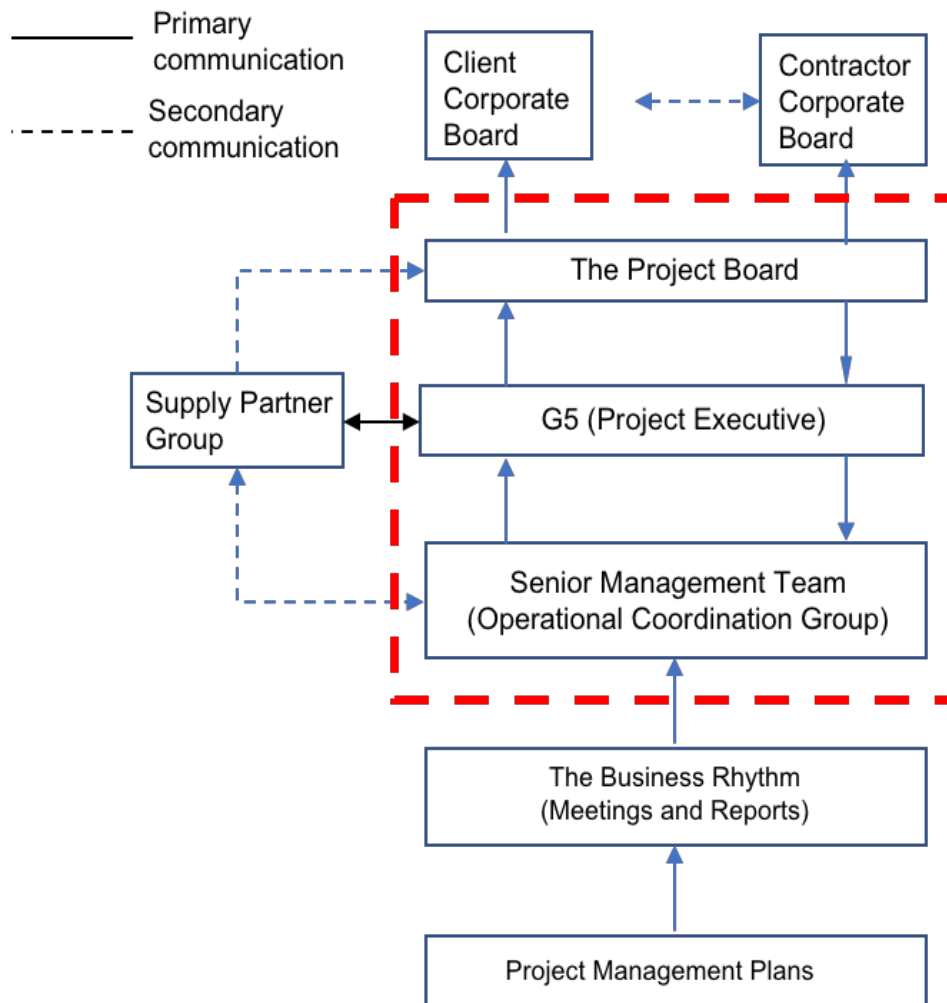
Figure 5-1- Organisational boundary of data collection

Although the terminology and make-up of the three organisational units changed during the transition (names in brackets in figure 5.1), their broad structure and attendees remained sufficiently stable so as to continue observing them as the organisational boundary to the study and for representational purposes here, the original names have been maintained. The restructure of these organisational groups and the adaptation of the 'management protocol' was the subject of the 'practical event' for the organising routine and is discussed in more detail in Chapter Six. The organisational units, and their associated management meetings and participants are described in table 5.1.

Organisational Unit	Meeting and purpose	Researcher role
The Project Board – constituted of three directors form the client team, two directors from the contractor team and an independent chairman	**Timing**: every two months; Purpose: Corporate governance; Admin: Formal agenda and formally minuted	Accountable for reporting on the performance of the project into this meeting
G5 – Constituted of 3 members of the client organisation and two members of the contractor organisation	**Timing**: Held weekly; Purpose: Overall management of the project; Admin: No formal agenda. Not minuted	Chaired the meeting
Senior Management Team (SMT) – constituted of G5, plus their respective senior management teams totalling 15 participants	**Timing**: Every 4 weeks; Purpose: Review Period Progress Reports; Admin: No formal agenda. Not minuted	Chaired the meeting

Table 5-1 - The organisational units and their management meetings

5.2.3 Management meetings

A total of one hundred and thirty one (131) management meetings were recorded, totalling over one hundred and seventy five (175) hours of audio recording. The primary management meetings that were recorded were those described in table 5.1 above. Two regular meetings led by myself that emerged during the transition and a small number of additional ad-hoc meetings, specific to certain incidents, were also recorded. In addition to the full breakdown of the data collected for the management meetings provided in Appendix B, the following table 5.2 provides the summary detail.

	Quantity	Total time (hh:mm:ss)	Purpose	Attendees
Primary meetings				
Bank Board	6	9:35:07	See table 5.1	See table 5.1
G5	46	74:31:18	See table 5.1	See table 5.1
SMT	13	28:17:31	See table 5.1	See table 5.1
Secondary meetings				
Commercial Meeting	14	15:09:50	Emerged in week 35 - contractual negotiations for Stage 2.	PMs and Commercial managers
LU Executive Meeting	43	21:00:55	Established following 29th June Workshop - to manage formal governance process.	Clients senior management team only.
SMT 2 Meeting	5	5:37:17	Informal meeting - developing the capability of SMT.	As PPR
Ad Hoc Meetings	4	4:44:06	Ad-hoc meetings – bespoke issues.	

Table 5-2 – Primary and secondary meetings recorded

The identification of 'incidents' within the 'practical events' were sourced solely from the primary meetings. The secondary meetings were used as contextual information. The full schedule of incidents is provided in Appendix D.

5.2.4 Organisational-auto-ethnographic diary

An additional constraint in an organisational-auto-ethnographic study was time available for ethnographic field notes during working hours. I mitigated this by maintaining an organisational-auto-ethnographic diary that was updated either the same day or within 24 hrs of each working day. The diary was commenced in week three of the study and in total generated one hundred and seventy-two thousand and sixty-seven (172,067) words, averaging three thousand two hundred and forty-seven (3,247) words a week. The lowest weekly count was under two thousand (2000) words, the highest in excess of six thousand (6,000) words. The time and place that the diary was updated was kept as a record. When on annual leave, no diary entries were made. It became clear towards the end of data collection that maintaining such a diary, while managing a project of this size full time was an exhausting affair and following two days away at an academic conference [not related to this thesis], I made the following entry in my diary:

> *"Friday 20th May (20:59 – on the Gatwick express back from Gatwick Airport, having landed from Rome) … I am tired, very tired. Not just from the two days away but from the combination of my PhD and managing the project and as time gets closer to the 1st of July* [2016], *I am running out of energy for the diary. I have realised that I am burnt out and the relentlessness of the diary, studies and work is taking it out of me and affecting my physical health. I want to step back a little bit, focus my diary of key events at work and complete my interviews and then that is enough, I am not going to keep it going on the regular basis that I have been doing, it is mentally exhausting the continuous self-reflection and writing of that…" (OAD, p341)*

Supporting the development of the case narrative and the analysis of incidents and events, the organisational-auto-ethnographic diary was analysed separately to the decision rules for incidents and practical events. This enabled me to reflect by moving backwards and forwards between the diary and the emergence of the incidents and events, and the extent of their influence as perceived at the time. The diary was not used for the primary selection of data, although I did develop 'topic' headings to analyse the diary. The topics are provided in table 5.3 below.

Included in the organisational-auto-ethnographic diary were episodes of when I had gone back to the theory during the data collection period, where specific organisational phenomena had emerged. This was often shared with participants during the study. This

process continued during the analysis phase where theory referenced in the organisational-auto-ethnographic diary was referred to and used as a starting point for iterating backwards and forwards between the theory and the data to develop the findings and this is reflected in the discussion of my abductive process in 5.3 below.

Code	Purpose
Auto	Personal reflections and feelings
Meetings	Reflections on the meetings described in Table 5.2
Interviews	Reflections on the interviews that I held
Organisational routines	Reflections on identified transition routines
Stakeholder	Reflections on external meetings (project)
External	Reflections on external meetings (non-project)
University	Reflections on times spent at the university

Table 5-3 - Organisational-auto-ethnographic diary topics

5.2.5 Artefacts

Access to the full suite of project governance documentation was made available, constrained only by commercial and security matters. A total of over nine thousand (9,000) artefacts and 11GB of data were collected that enabled me to both focus in on specific practices and look out to the wider organisational context. This is of course a huge amount of data that is unreasonable to be analysed within the timeframe of a PhD. I therefore prioritised the analysis on the following documentation:

1. The contract, specifically related to clauses regarding the transition – i.e. Stage Two Works Commencement Notice;

2. The management protocol;

3. The periodic reports produced by both the client and the contractor;

4. Project specific governance documentation;

5. Clients' corporate project management handbooks.

5.2.6 Interviews

A total of seventy-nine (79) interviews were held in three separate phases during the fifty-three (53) week study: Pre-transition, transition, post-transition. The purpose and detail of each interview phase is explained in sections 5.2.6.1 to 5.6.2.3 below. A graphic showing all interviews over the period of data collection is provided in Appendix C.

In addition to the members of the organisational boundary, I undertook a small number of interviews outside of that boundary, but within the project organisation itself. These interviewees were identified as being members of the secondary meetings described in

table 5.2 above, or mentioned as important during other interviews. No interviews were held outside of the overall project organisation itself. I prepared and issued an information sheet and consent form in advance of each first interview. The consent form and information sheet are included in Appendix E and F respectively. A detailed analysis of the timings for each interview are included in Appendix A, but also summarised here in table 5.4.

Organisational	Total interviewees	Total interviews	Total interview time
Project Board	6	15	9hrs 32mins
G5	8	20	14hrs 39mins
SMT	12	29	18hrs 1min
Other	8	15	9hrs 34mins

Table 5-4 - Interviews – total numbers and timings

Tables 5.5 - 5.8 below provide the details of the individuals who were interviewed and are organised into their separate organisational units, plus the additional interviewees.

Ref Number	Company	Org Unit	Original role at start of transition	Role change during transition
I016	Contractor	BB	Operations Director	No change
I017	Client	BB	Programme Manager	Left during transition- Took redundancy, replacement not interviewed
I019	Client	BB	Head Sponsor - Stations Programme	Left during transition- internal LU move and replaced by I014
I021	Client	BB	Head of Commercial - Stations Programme	No change
I022	Contractor	BB	Independent Chairman	Left during transition- change in terms of reference to Bank Board
I024	Contractor	BB	Managing Director	No change

Table 5-5 - Interview details and role changes – Bank Board

Ref Number	Company	Org Unit	Original role at start of transition	Role change during transition
I006	Contractor	G5	Project Director	Left during transition-Retired and replaced as a part of formal succession plan by I018
I014	Client	G5	Senior Sponsor	Promoted during transition- moved from G5 to Bank Board
I018	Contractor	G5	Project Director (Project Manager)	Promoted during transition- part of succession plan, taking over from I006
I034	Client	G5	Sponsor	Returned to project during transition post maternity leave, replacing I005
I020	Client	G5	Senior Project Manager	Promoted to Programme Manager on my departure from the project

Table 5-6 - Interview details and role changes – G5

Ref Number	Company	Org Unit	Original role at start of transition	Role change during transition
I001	Contractor	SMT	Engineering Manager	No change
I003	Contractor	SMT	Project Manager (formerly construction manager)	Promoted during transition- from Construction Manager to Project Manager
I007	Contractor	SMT	Head of Safety and Assurance (formerly quality manager)	Promoted during transition- Quality Manager to Head of Quality and Assurance
I008	Contractor	SMT	Senior Commercial Manager	Resigned during transition- replaced with I033
I010	Client	SMT	Risk Manager	No change
I012	Client	SMT	Senior Commercial Manager	Left after transition- move within LU
I013	Client	SMT	Head of PMO (formerly planner/utilities manager)	Promoted from Utilities Manager to Head of PMO
I023	Contractor	SMT	Procurement Manager	Left during transition- replaced by consultant
I025	Client	SMT	Programme Engineering Manager	No change
I026	Client	SMT	Project Manager - Stakeholder and Consent	No change
I033	Contractor	SMT	Senior Commercial Manager	Joined during transition- replaced I008

Table 5-7 - Interview details and role changes – SMT

Ref Number	Company	Org Unit	Original role at start of transition	Role change during transition
I027	Client	Other	Operations Manager	No change
I028	Contractor	Other	Architect	No change
I029	Client	Other	Asset Discipline Engineer	No change
I030	Client	Other	Lead Engineer - Civils	No change
I031	Contractor	Other	Construction Manager	Joined during transition- took over from I003
I032	Client	Other	Constriction Manager	Joined during transition
I015	Client	Other	Quality Manager	No change
I004	Client	Other	Project Manager - Governance	Left after transition- role no longer required
I005	Client	Other	Sponsor	Left during transition- replaced by I034
I002	Contractor	Other	Engineer (formerly engineering manager)	Left after transition- replaced with tunnelling engineer
I009	Contractor	Other	Document Control Manager	No change
I011	Client	Other	Safety Manager	No change

Table 5-8 - Interview details and role changes – Other

It will be presented in Chapter Six that the change in organisational make up in terms of personnel was a major uncertainty for the project, although this was not just the macro effect of designers leaving and construction people joining, the data showed that, while the management team remained relatively stable, their roles changed in nearly every instance at various stages of the transition. I have highlighted these personnel changes in the right hand column of tables 5.5 – 5.8 above. The interviews of the Bank Board, G5 and SMT were the primary sources of data to identify the transition goals of the routines.

Time data was also collected for each individual. I did this at the start of each of the first interviews and it worked well in acting as an 'ice-breaker' and entry into some dialogue with the participant. Nearly all the participants were well known to me, although I was not completely conversant with their full history and experience and this gave the opportunity in some small way to understand this. I did not draw heavily on this data in the analysis, although it acted as a guide to help me understand the individuals involved when considering past experience and history of the project. Table 5.6 below presents this time data in tabular format.

	Physical age of the individual?					
	< 20 Yrs	21-30 Yrs	31-40 Yrs	41-50 Yrs	51-60 Yrs	> 61 Yrs
BB	0%	0%	0%	50%	33%	17%
G5	0%	0%	38%	25%	38%	0%
SMT	0%	0%	33%	50%	17%	0%
	How long they have been involved in the project?					
	< 1 Yr	2-3 yrs	3-4 Yrs	> 5 Yrs		
BB	17%	33%	17%	33%		
G5	13%	25%	38%	25%		
SMT	25%	33%	33%	8%		
	How long they have been a member of the organisational entity being observed?					
	< 1 Yr	2-3 yrs	3-4 Yrs	> 5 Yrs		
BB	17%	17%	0%	67%		
G5	13%	0%	38%	50%		
SMT	0%	25%	17%	58%		
	How long they have been working within their industry/discipline?					
	< 5 yrs	6-10 Yrs	11-15 Yrs	16-20 Yrs	21-25 Yrs	> 25 Yrs
BB	0%	0%	0%	17%	17%	67%
G5	0%	0%	38%	0%	13%	50%
SMT	0%	25%	17%	25%	0%	33%
	How long do they plan to remain working on the project?					
	< 1 Yr	2-3 yrs	3-4 Yrs	> 5 Yrs		
BB	17%	0%	0%	83%		
G5	13%	25%	13%	50%		
SMT	8%	17%	25%	50%		

Table 5-9 - Summary group time data

The following three sections describe each one of the interview phases in more detail.

5.2.6.1   Phase 1 interviews: pre-transition

As set out in Chapter Four, working from Pentland and Feldman (2008), the purpose of the first phase of interviews was to establish an 'emic' perspective of the ostensive aspect of the routine. Before I go on to describe the phase 1 interviews in more detail, it is worth noting the 'transition rituals, that occurred within the project that bounded these interviews. Firstly, it was the senior management workshops on the 29th June 2015 and the 18th and 19th November 2015. These will be described further in the 'organising routine' in Chapter Six.

The first phase interviews were structured around six sections:

> ➢ Section 1 was an introduction where we signed the consent form, discussed the information sheet and collected time data;

> ➢ Sections 2-5 set out the structured questions (described below);

> ➢ Section 6 was a summary and any further questions.

In the introduction, I was explicit in explaining my position as project manager and researcher, this was already known to all of the participants, but alongside collecting the time data, this was an important element of the introductory conversation.

The four questions were designed to elicit a broad range of phenomena to support developing an understanding of the participants' perception of the ostensive aspect, as well as establish the 'goal' for each routine. The design of each question is presented below:

"In order for the project to transition from the detailed design stage to the construction stage of the project life cycle, and thinking about the transaction and interdependence uncertainties:

> ➢ *Can you firstly please talk a little bit about your role and history on the project;*

> ➢ *With regards to your role on the project, can you talk about your perceptions of the main steps that you think the project needs to go through to transition from design into construction;*

> ➢ *Can you talk about your perceptions of the emerging uncertainties (both 'transactional' and 'interdependence') that may influence the transition;*

> ➤ *If you think about the day to day tasks that you undertake as a part of your role in the transition, are they something you have done before or something that is quite new for you?"*

Collectively, the questions were designed to cover both the individual and collective view of the transition. The aim was to get the individual to focus on their role and to draw this out by getting them to reflect on their history on the project. While this can be understood from other data sources, the perspective of the history of the participants was valuable, because as discussed above, I did not have prior knowledge of everyone's history. Note that they were not asked to give their perception of the overall history of the project, but to set out their role and their history of that role on the project.

The individual perspective was then widened to get them to think, via the second question, about how this role played itself out in the 'steps' needed for the transition and hence the goal of the routine. It then sought, through question 3, to specifically deal with 'organisational uncertainty' as described in Chapter Two and section 3.2 of Chapter Three. I explained the meaning of transactional and relational uncertainty to the participants. As a particular phenomenon of temporary organisations is the issue of tasks being unique or routine, as discussed in section 3.4 of Chapter Three, the final question asked this of the participants as an additional way to understand this ostensive aspect of the routine.

I was quite specific in designing the questions not to ask for information with regards to any specific normative routine tasks from the project governance plans or contract, nor any particular phenomena from my own history on the project. In fact, as my own OAD describes, I was at first very nervous about the interviews and refrained from interjecting to seek further clarity on meaning. This changed as time progressed and where particular comments related to particular phenomena I had observed in other interviews or in the literature, then I asked further questions. In places, I also used my role to describe theoretical work related to their comments, as a form of interaction with regards to autoethnographic work, as described in Chapter Four. This is how I reflected on that in my diary –

> *"Friday 17th July (written up at 17:00 just after completing the two interviews) - Today I undertook my first interviews and to be honest I found them a bit strange, I wasn't too sure how much I should interact with the interviewees (I did two) in terms of my influencing them because of my position…I will reflect on it over the weekend but I think I need to think more about responding to the interviewees comments with respect to theory and to what*

I think we should be doing on the project; that would make it closer to organisational autoethnography..." (OAD Page 6)

Here was my subsequent reflection on these first interviews –

"Saturday 18th July (about 18.40 having had a family day) - I have spent last night and today reflecting on the interviews yesterday, clearly they didn't quite go as planned... I have given thought to the work of Van de Ven (2007) and also reading Rescher (1996) this week, I should stick to what I originally planned for this summer as out of that, the line of inquiry would emerge..." (OAD, page 7).

And here moved on following the 3rd interview –

"Monday 20th July (started writing 10.30 after LU Exec mtg) - I did my third interview this afternoon…both this interview (003) and interviewee 001 talked about the relationship with another project … so I probed a bit further around the theoretical concept of 'embeddedness'…" (OAD, Page 9).

As the phase one interviews progressed, I became more confident and a number of themes emerged, the most notable of these were included in the historical grounding of the project (I014), embeddedness in relation to other projects (I003), interdependencies and the transition as a process not a step change (I007), information and its availability (I006), all of which I summarised as 'organisational uncertainty' in the new organisation and which materialised through the transition. In fact, when asking the questions described above, I noticed that in the second question, when asked about the necessary steps to go through the transition, that a common response was to talk about the impending uncertainty of the organisation. This is how I recorded it in my diary

"Tuesday 4th August (16.30) - A main summary observation (not sure if I mentioned this earlier in my diary) is the fact that in question two, the majority of respondents seem to have made reference to the uncertainty of what the organization will be/look like going forward, and then in question three they talk about some of the steps, interesting that it is this way round!!" (OAD, Page 21).

Of the twenty-six interviews that were undertaken in phase one, twenty were transcribed into word format from the audio file. These twenty were specifically chosen as they constituted those members of the three organisational units and were the attendees of the primary meetings described in table 5.2.

Fourteen of these interviews took place between weeks three and six of the study. Five took place during weeks thirteen and fourteen and one took place in week seventeen. The gap between weeks seven and twelve was due to summer holidays limiting the ability to find suitable timings for those interviews and the final interview was a member of the original SMT that was left out of the new SMT, following 29th June workshop, but it was later realised through the interviews and within G5 that this individual should come back into SMT as the role was important to the project and therefore the interview was important to add to the data, specifically as this individual had led the statutory planning. This will be discussed in Chapter Six.

On completion of these phase one interviews and prior to the workshop planned for mid-November, I manually coded the interviews to provide a provisional set of organisational routines built around the 'steps' associated with the transition. I took this approach following a meeting with a colleague at UCL who had invited me to come in to discuss my research with them as they had also undertaken research in the area of organisational routines. Here is the transcript from my diary:

> *"Monday 12th October (16:39 – sitting on the train waiting for it to leave London Bridge, heading home early for a parent/teacher evening at school) - I then headed up to UCL for a meeting with [colleague] for an informal talk through my methodology... Coming out of it I feel I really need to do my analysis of my first set of interviews before doing the second ones. I need to identify that ostensive aspect of the routine… [colleague] was suggesting that I may not have collected the full richness of peoples' views without asking more probing questions…" (OAD, page, 63)*

In total, I identified five routines, namely: Commercial, planning, governance, procurement, organisation and from design to construction. I have provided a copy of the summary of this coding in Appendix G. I issued this to the interviewees before we attended the workshop on the 18th and 19th November. I subsequently amended these routines following the completion of data collection and this is described in Chapter Six.

5.2.6.2 Phase 2 interviews - In-transition

The phase 2 interviews took place between weeks twenty-three and week thirty six of the study. During this period three structured phase one interviews were held with participants who joined the management team. The primary purpose of the phase two interviews was to capture the participants' perception of the ongoing 'performative' aspects of the routines, following the capture of the ostensive aspects in the phase one interviews. The phase two interviews were purposefully unstructured, but focused on key

themes that the participants had raised in their first interviews. They involved a greater degree of questioning about how and why certain practices they talked about were enacted and discussing the ostensive aspects that I had manually coded. This was my reaction following the first of the phase 2 interviews:

> *"Tuesday 1st December (08:23 – sitting on the bus, 148 as I have a meeting at St James Park) - The big event today was my first Phase 2 interview. It was a full hour and went incredibly well I thought, I was pleased with it. I did let the conversation flow a bit more, I focused in on the 'routine' a bit more in terms of my probing, what [colleague] had said about drilling down into the micro processes. This led to a number of important new details around artefacts, informal relations, information search etc" (OAD, page 116)*

It had been my intention to send everybody either a copy of the tape or their transcript in advance. I started out doing this but nobody read or listened in advance and slowly this faded away. I listened to, or read transcripts of the first interviews in advance of the second interviews. As described above, I had specifically left the meetings unstructured for the purposes of focusing on 'what was happening in practice today'. I used the key points from the first interviews as prompts for highlighting topics to focus on. The purpose of doing this was to 'zoom in' on this day to day practice (Nicolini, 2013). 'What' was currently happening around the topics, 'why' did they think these practices/actions were occurring and 'how' did they go about dealing with them. By focusing on the key themes from their first interviews, this also enabled me to get a better understanding of the transition routine(s) that the participant was involved in. This also enabled me to build up a picture of some of the perceptions of the key events that were being reported on during the SMT Period Progress Review meeting. I used these second (and third phase) interviews to help me reconstruct the transition routines post data collection.

Here is an extract from my diary at the end of phase two data collection, which I felt had gone very well and during a period when a lot had happened on the project:

> *"Friday 18th March (07:41 – on the 40) - I am going to hopefully take some time out on holiday and reflect a little more on the last few months. This is a pivotal point with me going on holiday, TfL Board done, TWA in the bag, [I006] moving on, end of second phase of my data collection, lots of theory read, EGOS paper accepted … few days out to reflect and write on this will be good. I have a busy day and then busy getting ready to travel so here I am, sitting nicely on my own having my coffee in London Grind restaurant, had a lovely smoked salmon and scrambled eggs, reflecting on all this and then a nice stroll over the bridge into the office! Life feels nice and the little*

book I bought on Bergson is helping no end to settle me philosophically! (08:57)" (OAD, p263)

5.2.6.3   Phase 3 interviews – Post transition

The phase 3 interviews took place over a five-week period from week commencing 29th May 2016 through to week ending 2nd July 2016. This was the date when I stopped collecting data and stopped writing my diary. The phase 3 interviews were unstructured interviews, no further coding had taken place prior to these interviews. Similar to the phase two interviews, the purpose of the phase three interviews, as they were post formal sanction and transition, was not only to capture the ongoing performative aspects of the routine, but also to reflect on the participants' perceptions of the outcome of the routine from the original ostensive steps provided in the phase 1 interviews. In addition, similar to the phase one interviews, I asked their perceptions of the ongoing and future uncertainties and the extent that their current tasks were unique or something they had done before.

I felt relieved to finally get the phase three interviews underway, I had left them as late as possible before I stopped collecting data and to get them underway felt like the beginning of the end of data collection. Here is my response following the first interview:

> *Thursday 2nd June (21:02 – at home in the study) "I did my first phase 3 interview today…I didn't have any formal questions, it was an open conversation but I did delve into some of the themes that were uncovered at the end of the phase one interviews. I also asked about future uncertainty and the unique v's routine tasks and I found that very interesting so I will keep that going… I have another one tomorrow, [I011], and then it gets more intense next week and beyond. I am keen to get them done. (21:30)" (OAD, p354)*

The most notable feature of these phase three interviews was the sense that the transition felt incomplete complete, that the project was still transitioning, despite having been granted formal sanction. At this stage, a number of new participants had joined the project, sub-contracts had been awarded and parts of the design were still incomplete. Participants to the study felt that in general their role was less routine than when I asked in the first phase interviews and so this gave me a sense that the impending organisational uncertainty discussed in the phase one interviews had materialised itself again post formal transition.

The end of the phase three interviews turned out to be my end on the project as well. I had arranged for a two-month sabbatical and during that time I was offered and took redundancy, and so left the project in September 2016.

5.2.7 Summary

In this section, I have described the data that I collected during the fifty-three weeks of data collection, giving further details on how I managed the constraints of an autoethnography. The three phases of interviews were explained and in the case of the phase one interviews, I have described some of the early analysis that I undertook. In the following section, I build on this and provide more detail of the abductive process I went through to arrive at the transition narrative, the final six transition routines, their associated practical events and the abstract event sequence, that I have termed a 'recursive process model of transitioning'

5.3   Data analysis

5.3.1   Introduction

In section 5.2.6, I described the manual coding I had completed following the phase one interviews and the purpose of the phase two and phase three interviews. I had done no further coding of the data since the phase one interviews.

Following the completion of data collection and the commencement of analysis, I soon came to realise that I had collected a large amount of ethnographic data, that in itself did not constitute a guarantee of developing good theory (van Maanen, 1979). In the literature synthesis in Chapter Three above, I have summarised the key points of my literature and presented my understanding of the concept of transition. I did not have this understanding at the end of developing my theoretical framework, it emerged over time during the analysis of my data, writing my findings, through engaging with my supervisors, presenting my work at university and the process of writing and presenting conference papers.

In the same way, in Chapter Four, I have provided a description of my methodology, but indeed this methodology as written and my understanding of it has matured, again, during both the process of analysis and the process of writing, meaning I have iterated between theory, analysis and writing to arrive at this final 'sufficiently complete' version of this thesis. In this section therefore, before the research findings are presented in Chapter Six, I will describe my process of analysis and writing. To do this, I have drawn inspiration from the work of Locke et al. (2008), as I entered into the recursive process of 'doubt' and 'belief' when confronted with the large amount of ethnographic data I had collected.

5.3.2   Analysis – routines, incidents, events and event sequences.

As explained above, soon after I had completed collecting data in July 2016, I was offered redundancy from London Underground and I left the project. This gave me the opportunity to continue working part time, but spend more time on the doctoral studies. I took advantage of this additional time to familiarise myself further with my ontological position and read more of Rescher (1996) and of Holquist (2002), having touched on both these authors during the data collection.

I then set about listening to the audio recordings, starting with the workshop held on the 29th June. The opening session highlighted key difficulties that the project was facing and these started to give an insight to goals of the transition routines that were captured in the phase one interviews. I was listening and making notes, summarising the dialogue as I went. In parallel, I started to read my diary and highlight areas that caught my attention, relative to my theoretical framework. Although I had a number of concepts in

the background, there was a sharper focus on the transition concept. Yet it was still unclear to me exactly what I was looking for. I downloaded NVivo and loaded what hard documents I had into there and started to learn how to code text. I started to seek to draw a number of codes from the audio and text I had been reading, but I struggled to understand or settle on specific codes, it felt like I was constraining my intellectual intuition and I didn't want to do that.

So, I went back to the notes I had made both from the first manual coding, the early manual transcripts from listening to the first few meetings, reading my diary and so started to read through and highlight emerging common themes. These themes were a relationship between both theory and practice. Firstly, certain members of G5 seemed to take on specific roles within the meetings, in terms of initiating, terminating or elaborating on specific topics. I decided that to analyse at the level of the individual would be too low a level and start to encroach on the level of 'habit' rather than 'routine' (Hodgson, 2008; Salvato and Rerup, 2010) and that was not the level of analysis for this research question.

I then returned to the phase 1 interviews and the manual coding I had done. I decided that with my redundancy money I would pay for all the interviews from the main Bank Board, G5 and SMT members to be fully transcribed, professionally. I sent off the phase 1 interviews (excluding Bank Board) to start with and while waiting for those to be transcribed, I went back to the Bank Board phase 1 interviews, which I had transcribed myself a year earlier and listened again to these and tidied up the transcriptions. Alongside my manual coding, this highlighted the nature of the collaborative relationship we were in as a result of the novel procurement methodology, the 'social entwinement', and so here I returned to Sandberg and Tsoukas (2011) to further understand their 'practical rationality' and how I may use that as a part of the analysis. When I had received the transcribed phase one interviews, I then read through these and listened at the same time, making notes on their references to our collaborative relationship. This helped greatly to understand the wider environment we were in, but did not draw me close to a single set of codes.

I then decided to return to the routines I had manually coded after the phase one interviews and sought to identify specific events that happened in the project. For this I printed off and read through the executive summaries of the contractors' period progress reports as these highlighted the primary, secondary and tertiary critical paths of the project, as they were unfolding during the transition. Because the transition had a fixed date with certain tasks to be achieved, I felt this was a good place to go as this was the key feature of the life cycle and was informing our causal perceptions of time (Lundin and Söderholm, 1995; Orlikowski and Yates, 2002). I also found a relationship with these

and the key difficulties highlighted by the team in the workshop on the 29th June. I had also become a little lost searching for incidents associated with concepts and so felt comfortable returning to practical events. Certain key practical events then started to emerge and I realised that perceptions of these were embedded in the phase two and three interviews, and so I had the remainder of my interviews transcribed. This process also started to give me a sense of the temporal bracketing going on (Langley, 1999) and a way of starting to build the narrative (Pentland, 1999).

I then went through a process of iterating between my early manual coding, the three sets of interviews, the periodic reports and my diary, which I had started to summarise into the separate topics that I presented in the data collection above. The five routines that I had originally identified were starting to take on a different shape and structure as I started to add specific 'incidents' (I use that term lightly here as I had not yet formally developed my decision rules) and develop the sequence of how practical events had been unfolding on the project, with a sixth routine starting to emerge.

At this stage, two specific areas of note started to emerge. Firstly, there were common themes not just from the transcribed interviews but from the early manual transcripts of the meeting audios. These were: Types of time, types of information and types of information search, the different participants involved in particular activities and the different artefacts involved, existing and emerging. Secondly, I found that the practical events that I started to align to the six emerging routines had aspects to them that could be considered to include tasks from a number of different routines. This was the emergence of the relationality of action (Feldman, 2016). It became apparent that many of the incidents I was identifying were not ex-ante defined tasks with clear boundaries drawn from the project management artefacts (the contract, governance plans, etc.), but were unique in nature and required the input of participants from kore than one organisation or organisational unit.

I was now approximately six months into data analysis and I felt more confused than ever and so at this stage held a meeting with my primary supervisor and shared some thoughts and stories with other academics and students at the school. It was clear that this was a common feeling and I just had to work through it and so developed a strategy to do so. This involved planning to submit a conference paper for the summer of 2017. This gave me a clear plan ahead and the chance to use the preparation of the short and the full conference paper as a way of starting to write my thesis and focus in on the emerging themes and the sequence of incidents in the practical events.

The first step was to get further audio data transcribed and this is when I selected all the Bank Board Meetings, all the SMT period progress review meetings and those G5 meetings that happened either before/after the Bank Board meeting and those that

happened after the SMT meeting (SMT was always on a Wednesday every four weeks, G5 was every Thursday, weekly). I selected these as they would represent the periodic business rhythm of managing, the 'dialogic action', that I would take as the primary data for the performative aspect for my routines and so providing a clearer routine boundary.

I started to read through this data and again without formal coding, build on and highlight the practical events and common themes that started to emerge and from this I prepared, submitted and had accepted the short conference paper. By this time, I had redefined the six routines and their (emic) ostensive aspects going back over the interviews from all three phases, along with a list of emerging practical 'events and incidents' that made up the performative aspects of the routine. I got to week ten of detailed data listening and noting, as well as reading through to the end of my diary, to realise that there was sufficient consistency of the routines and the incidents and events through to the end of data collection.

It was at this time that the 'events and incidents' that I was listing against each routine had some form of both chronological and underlying sequence to them, and so my abstract event sequence started to emerge. However, I still felt that the extent of the data that I had was too overwhelming to be able to sensibly develop the routines in a meaningful way that would allow me to finalise the visual mapping, temporal bracketing (Langley, 1999) and associated narrative (Pentland, 1999) I needed to understand the transformation of these routines over time and their underlying generative mechanism. In addition, I still had the four common themes of time, information, people and artefact that I couldn't somehow comfortably fit with the work of Lundin and Söderholm (1995) or Feldman and Pentland (2003). Nor had I fully finalised my decision rules for the incident data (Van de Ven, 2007).

In parallel (or let's say the beginning and end of these are difficult to identify), key activities emerged as I continued to explore the data. Firstly, I went back to the literature of Lundin and Söderholm (1995) and explored further the sequencing concepts within their theory and started to understand the notion of boundary opening and boundary setting that was discussed in section 3.4. Although I understood artefacts as boundary objects from the routines literature (D'Adderio, 2010), because of the rhetorical nature of sequencing concepts (Lundin and Söderholm, 1995), and my emerging focus on the dialogical nature of social relations (Emirbyer and Mische, 1998) I searched for a different understanding of these boundaries and came across the work of Zerjav (2015) and identified his use of Sandberg and Tsoukas (2011) as a method to help analyse data. And so, I returned to this work, having first explored it during my literature review and it was here that I started to understand more the role of social entwinement and breakdowns, its agentic and structural characteristics and how these might help me

understand how I may better identify the incidents and the practical events that I had started to align with the six routines.

Secondly, I returned to Van de Ven (2007) and again re-read his work on the analysis of incidents and events and strategies for developing abstract event sequences. I started to develop an early set of decision rules, alongside developing the work of Sandberg and Tsoukas (2011). To help me do this, I did two things. Firstly, I used a structural aspect of the organisation and went back to the Bank Board meetings, on the basis that these were the most senior level of authority within the project through which important 'breakdowns' in performance would be discussed and through which we needed approval at the level below for client sanction of funding for stage two of the project. This organisational structure of governance was explained in Chapter Two, where the inter-organisational relationships were set out in Figures 2.1 and 2.2 . This also aligned with the work of Jacobsson et, al. (2013) on their understanding of the concept of transition with respect to the relationship between the temporary and the permanent organisation, and which also drew attention to the inter-organisational nature of the project. I summarised the practical topics highlighted at Bank Board and this limited the full list for each routine that was emerging and also confirmed the consistency through data collection. I started to map out the practical events, their incidents, and the new or adapted artefacts that gave the routines their structural characteristic, into their time sequence from the information from the periodic reports, interviews and meetings transcriptions. This helped me to start to picture the sequence of these incidents against the pre-defined dates that I have discussed above in the case study. These incidents, their sequence and temporal bracketing is provided in Appendix D.

In parallel to this, I started writing my long conference paper and started to develop and structure my thesis, using the activity of writing the conference paper as a way to start writing the thesis and in doing so started to write out the routines and their incidents and the emerging sequence of events. While this was developing, I still felt that I had somehow left behind my four themes of time, information, people and artefacts.

I had continued to read my diary and continued to explore the literature and it was at this time that I again came across the work of Lorino and Tricard (2012) and realised that this is where my reading on dialogism (Holquist, 2002) and the dialogical nature of agency (Emirbyer and Mische, 1998) came together and enabled me to now start to concentrate on the chronotope as the way of developing the common categories of the dialogue that were emerging in the meetings. This also enabled me to understand with greater clarity the meaning of action in the concept of transition as being dialogical in nature and relative to the perceptions of causal relations between the project participants (Jacobsson et, al., 2013; Lundin and Söderholm, 1995). Here is the entry in my diary:

"Tuesday 15th March (20:50 – at home in my office) - A decent day, a study day mostly but pretty much in the [work] office all day so when that happens my studies are of course interrupted by work. Following my concerns over analysis, last night I did a little bit of reading of Langley (1999) and remain convinced over a mix of narrative analysis and temporal bracketing which is what I put in my paper for upgrade. I also read Van de Ven (2007) on incidents and events and then I have spent today reading Van Maanen (1979) on his first and second order concepts from ethnographic data. It has moved me forward and my next step is to start developing the analysis strategy that I can talk [Supervisor 1] and [Supervisor 2] through. I still need to finish Lorino and Tricard (2012) actually, I have read the main text but the chapter finishes with 2 case studies, one of which is construction and I really want to read that one." (OAD, Week 38, pages 254-5)

Over the coming weeks I completed and submitted my conference paper, with some preliminary findings regards the routines, incidents and a partial abstract event sequence. The paper was well received at the conference and gave me the confidence to come away and start writing and to finalise my analysis of the incidents and events. My time at the conference included a 'process' writing workshop.

Following the conference, I started in earnest to finalise my decision rules and data analysis and write my first draft. In firming up my decision rules, I realised that the trouble I was having to finalise incidents and events following Van de Ven (2007), was that for the analysis of routines, I needed to add in an additional step. I had been muddling my understanding of incidents and events and by focusing on the definition of 'transition' as set out in the theoretical framework in Chapter Three and by returning to the literature of Lundin and Söderholm (1995) and Feldman and Pentland (2003), I needed to focus on a single event for each routine that could be considered the 'goal' for that routine, in achieving the formal transition from stage one to stage two and so providing a clearer boundary to the transition routine, for the purpose of analysis.

In developing the decision rules for identifying these 'practical events', I realised that the 'incidents' I needed to identify were specific performative instances of the routine associated with the 'transition' goal of the routine, that incorporated the participants 'utterances'. This way, I managed to start to close in on the particular boundary of the routine that I was observing, because I could not trace all the activities associated with a particular event or routine (Feldman and Pentland, 2008). This is the stage that I then developed the 'qualitative datum' (Van de Ven, 2007) for the incidents as those being the periodic dialogue (dialogic action) within the Bank Board, G5 and SMT, over the fifty-three week period of data collection and I developed a set of search words for each

practical event and used these to search for the incidents within the data. This provided a sensible boundary for the routine and allowed for the collection of sufficient data across six routines and six events to be able to start to further develop the second order concepts, the 'abstract event' sequence (Van de Ven, 2007; van Maanen, 1979), that had by now started to take on a more recognisable form through the temporal bracketing and visual mapping (Langley, 1999).

In developing the decision rule for the 'practical event', I returned to my literature on transition (van den Ende and van Marrewijk, 2014; Abbott, 2001; Gersick, 1988; Jacobsson et, al., 2013). I realised the workshop of 29th June 2015 can be conceptualised as an important transition 'ritual' in the project as it is here that we as a team first set out to understand our current status and plan for transition. I went back to this data and the main goals for each routine and the applicability of the decision rule to select 'practical events' and their 'incidents' it became clear there was a relationship with the key difficulties identified at this workshop. As well as recognising that this workshop represented a first-order 'temporary breakdown' (Sandberg and Tsoukas, 2011)

I identified a total two hundred and seventy-eight incidents from which I was able to draw the categories of the chronotope for each routine, to describe the performative aspects of the routine within a clear set of boundaries and a sharper qualitative datum.

Appendix D provides both a summary of the number of incidents across the abstract event sequence stages for each routine, as well as the detail within each routine with their qualitative datum. Table 5-10 below presents a summary of the six routines, their practical events and associated breakdown/social entwinement, and their timing relative to the project's critical path explained in Chapter One.

Organisational Routine	Practical Event and Incidents	Breakdown and Social entwinement	Time and timing
1. Organising routine	Management protocol	Unplanned – Negotiated non-contractual change - Fear that stage 1 values would not transfer to stage 2	Not on critical path
2. Governing routine	Formal client sanction	No breakdown - Aligning contractor forecasts with client funding submission	On the critical path
3. Contracting routine	Stage 2 Works Commencement Notice	Planned – Instructed contract change - Fear that traditional industry behaviours would disrupt values.	On the critical path
4. Designing routine	Design compliance packaging	Unplanned – Negotiated contract change - Commercial challenges could lead to organisational conflict.	On the critical path
5. Constructing routine	Accommodation strategy	Unplanned – Instructed contract change - Fear of loss of co-located workforce and schedule gains	On the critical path
6. Consenting routine	Discharging statutory conditions	Unplanned – knowledge transfer - Construction team needed to integrate with consenting team	On the critical path

Table 5-10 – Routines and their practical events

Having now provided the necessary focus on the routines, practical events and their incidents, I was further able to develop and refine the abstract event sequence model that had been emerging. It had originally started out as three abstract stages, these being broad in nature and predominantly set around the three phases of data collection: pre-transition, transition and post-transition. In one sense these were easily identifiable around the predefined date for transition.

But as I started to map key milestones and specific incidents into the sequence and continued to read through the incident data, searching for the chronotopic categories, I started to recognise a slightly different sequence and so I returned to my literature on 'transition' (van den Ende and van Marrewijk, 2014; Abbott, 2001; Gersick, 1988; Jacobsson et, al., 2013). Two particular aspects emerged for me. Firstly, I was finding it difficult to define and explain the boundaries between each abstract event sequence, yet it seemed intuitive that that there were certain 'movements' from one stage to the next judging by the nature of the dialogue within the incidents. In reading van den Ende and van Marrewijk (2014), I realised that as with the workshop on the 29th June 2015, there were certain meetings or events that could be considered transition 'rituals', such as Band Board meetings or specific G5 or SMT meetings, or bespoke, emergent workshops. This understanding made me realise that sequential stages in a life cycle were not structured from single brackets, but that is was an ongoing process of 'bracketing. It enabled me to have more confidence in identifying and developing the boundaries between abstract events, because although individual routines started to exhibit slightly different 'timings', the overall transition of the project was starting to show a general abstract and generative pattern that was different to the ex-ante defined life cycle model of the project.

I noticed that it felt like the 'actuality' of our transition, was temporally different to the planned governance between the temporary and the permanent organisation. Here I returned to Gersick (1988), which not only confirmed the importance of the 29th June workshop, but also that, while it is difficult to say it was the half way point, we seemed to reach an almost natural turning point (Abbott, 2001) when we re-oriented ourselves (dialogically) away from the 'definition' (design) stage and towards the 'delivery' (construction) phase, not just in terms of actual events, but in the meaning making principles and behavioural values (professional and personal) that we espoused.

This showed me that I had now started to identify the underlying generative mechanism of 'transition', that, in the flow of time, sat hidden behind the deterministic life cycle model of 'transition'. From the 'performance' of incidents (Simpson and Lorino, 2016), I was starting to see the 'patterning of action' (Feldman, 2016) generated from the 'not-yet-

said' (Shotter, 2008), the ontological incompleteness of our experiences (Rescher, 1996) and the (re)creation of our organisational routines (Dionysou and Tsoukas, 2013). That by exploring the concept of transitioning from a becoming ontology (Tsoukas and Chia, 2002), notions of how "temporary organisations need to be fixed in time" (Lundin and Söderholm, 1995:446) start to take on a different perspective. Table 5-8 below, summarises and describes the five abstract event sequences, showing their duration in weeks. Chapter Six provides a more detailed description of each stage.

It is clear from the above explanation that I have not provided a full description and analysis of the whole project through transition, nor indeed the full suite of routines or non-routine actions that took place throughout the whole project during transition, but it has enabled me to refine my methodology and provide greater clarity on the boundary of the identified routines and so the analytical process in respect of an autoethnographic study of organisational routines in a temporary organisation.

Stages	Stage 1: Realising	Stage 2: Informing and Assuming	Stage 3: Turning and Preparing	Stage 4: Validating	Stage 5: Enacting
Weeks	1-6	6-22	22-36	36-42	42-53
Description	The 'thwarting of expectations', the realisation of the need to change… espousing future possibilities	Searching for information, understanding constraints and making assumptions as deadlines approach	Key events trigger a shift towards the transition and so preparation of formal approval submissions	Obtaining formal sanction through formal governance procedures	Enacting the new practices and structures

Table 5-11 - Abstract event sequences of transition

5.3.3   Summary

In this section I have described the abductive process I have been through in the analysis of the data that I collected and described in section 5.2. I have taken you through my journey of 'doubt' and 'belief' (Locke et, al., 2008) and arrived at the six routines, their associated practical events and incidents and the resulting abstract sequence of events. In the following Chapter Six, I will present the findings of that analysis. Firstly, I will describe the narrative of the transition in the form of the chronotope. I will then describe the six routines, their practical events and the chronotope categories. Following that, I will present the five 'abstract event' sequences that provide the underlying generative mechanisms of routines in transition in a temporary organisation. Chapter Seven will provide the discussion for what I propose to be my contribution to knowledge.

6 Chapter Six - Research findings

6.1 Introduction

This Chapter Six presents the detailed findings of the study. Firstly, it provides a narrative of the transition, which builds on the case study explanation in Chapter One, but deals specifically with the events that unfolded during the fifty three weeks of data collection. The narrative is presented in the categorical structure of the chronotope. It is presented this way because "The chronotope is the place where the knots of narrative are tied and untied. It can be said without qualification that to them belongs the meaning that shapes narrative…We cannot help but be strongly impressed by the *representational* importance of the chronotope. Time becomes, in effect, palpable and visible; the chronotope makes narrative events concrete, makes them take on flesh, causes blood to flow in their veins. An event can be communicated, it becomes information, one can give precise data on the place and time of its occurrence" (Bakhtin, 1981:250). In a sense, as this thesis is not a novel, this section is untying those knots and presenting the individual categories so as to help in the analysis of the structure of the dialogue.

Section 6.3 will discuss the six transition routines, firstly presenting the emic perspective before going on to discuss the ostensive/performative patterning through the 'goal' of the routine and its associated practical events and incidents. I will include a summary of each routine's elements of the 'recursive model of transition', before finishing each routine by explaining its chronotopic structure. Following this explanation of the six routines a summary 'transition' chronotope in the manner of Lorino and Tricard (2012) will be provided.

The final section of this Chapter Six will describe the five abstract event sequences of the 'recursive process model of transitioning', providing greater depth of description to each of the five 'events' from table 5.8 in Chapter Five above, as well as describing its recursive nature.

6.2 Transition narrative

6.2.1 Introduction

This section builds on the case narrative provided in Chapter One, focusing specifically on the transition from design to construction in the fifty-three week period of data collection from June 2015 to July 2016.

6.2.2 The temporal frame

The senior management workshop on the 29th June 2015 was a 'transition ritual' (van den Ende and van Marrewijk, 2014) that shifted the temporal 'trajectory' of the project (Abbott, 2001). It signalled a breakdown in our performance (Sandberg and Tsoukas, 2011) and sparked a series of actions that, combined with the formal ex-ante defined dates, created the temporal pattern of the transition.

Five ex-ante defined dates created the time boundary for 'transitioning' from stage one to stage two. Two of these were explicit and defined within the formal contract. Two dates were explicit in terms of planned tasks on the critical path, but their dates were not ex-ante defined prior to July 2013. They emerged from enacting the project activities through time. The fifth date was created during stage one by a decision to formally advise tenants of worksite one of our intended compulsory occupation and subsequent demolition of the buildings. The five dates are as follows, and presented graphically in figure 6.1:

➢ Explicit - Key Date 2 – Design Compliance – 23rd February 2016

➢ Explicit - Milestone date - Stage 2 Works Commencement Notice – 21st April 2016

➢ Planned but emergent - Award of Statutory Planning – 15th December 2015

➢ Planned but emergent – Clients Formal Sanction for Stage 2 – 17th March 2016

➢ Unplanned and emergent – Formal property occupation – 11th January 2016

The progress of the activities on the critical path and their relationship with these planned and emergent milestone dates were the subject of the 'Period Progress Review' meeting (every 4 weeks) between G5 and SMT and where breakdowns in routine performance were discussed (Sandberg and Tsoukas, 2011) as the main packages of work moved in and out of criticality. This period progress meeting was a central feature of the 'business rhythm' of meetings, which was set out in a project artefact, and defined the reporting and meeting cycles for the temporary organisation, embedding it into the corporate governance structures of the 'permanent' organisations - the client and contractor organisations. This business rhythm was primarily governed by the legislative framework

and Standing Order of TfL which was explained in Chapter Two, and so it remained stable during the transition and into stage two, although the structure and attendees of the meetings changed.

P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P1	P2	P3	P4

Award of Statutory Planning – 15th December 2015 ◆

Formal property occupation – 11th January 2016 ◆

Design Compliance – 23rd February 2016 ◆

Clients Formal Sanction for Stage 2 – 17th March 2016 ◆

Stage 2 Works Commencement Notice – 21st April 2016 ◆
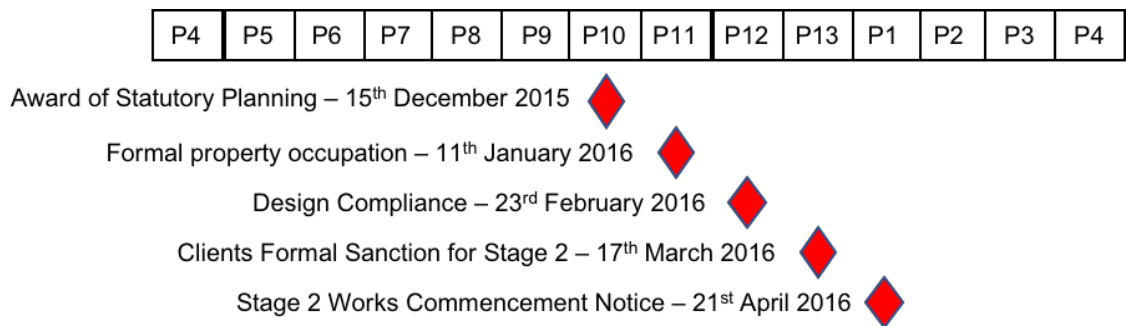
Figure 6-1 - Transition milestones

The success, failure or interpretation of the meaning of these milestone dates from the perceptions of their causal relations by the participants (Lundin and Söderholm, 1995) had a strong influence on the patterns of action within and between the routines and clearly influenced the abstract event sequence. I shall draw on these individually as I work through the six individual routines in the following section of this chapter.

6.2.3 The spatial frame

As I discussed in Chapter One, the spatial frame of the project was characterised by both above ground and below ground works. The two worksites were a critical spatial requirement for undertaking the construction logistics to achieve the end date of July 2021. The completion of utility works and site establishment on worksite two, the compulsory removal of tenants and commencement of surveys prior to demolition were critical in meeting the 21st April start date for stage two of the project as this enabled the establishment of the accommodation for the project staff, transitioning designers out and construction staff in, on both worksites.

Both worksites were subject to significant stakeholder consultation and agreement leading up to and during the public inquiry of the TWAO in May 2015. This had resulted in legal agreements with these stakeholders that restricted the size of worksite two and constrained the date of occupation of worksite one. It became apparent soon after the dust had settled from the public inquiry and the signing of the legal agreements that we would not be able to accommodate all the staff as planned and therefore a new accommodation strategy would need to be planned and implemented prior to 21st April 2016.

The remainder of the spatial elements of the project remained stable during the transition period. There were no significant changes to the major stakeholders and their location.

Both the client and the contractor maintained the same headquarters where participants travelled to and from. This accommodation strategy becomes the subject of the practical event in the constructing routine that will be describe in section 6.3.

6.2.4 Meaning making principles

Within the construction industry, design and construction have their own institutionalised structures and practices (Winch, 2010) within their own spatial and temporal frames (Lorino and Tricard, 2012). These were evident within this study and this had been structured within the main works contract, but there was the added complication in this transition of the legal agreements between the stakeholders, the emerging statutory planning conditions from the TWAO and issuing the bespoke Stage Two Works Commencement Notice.

One of the main features of design and build is the retention and continuity of knowledge across the two stages of design and construction. The workshop of the 29th July highlighted that these advantages had not been fully materialised although the interview data showed that there were different perceptions of the extent of this from different participants and this will be discussed in section 6.3.

In the phase one interviews, the participants clearly presented the movement from one spatiotemporal frame to the next to be characterised by high levels of organisational uncertainty – both relational and transactional (Söderlund, 2012; Jones and Lichtenstein, 2008), as the multiple participants, as actors undergoing their own spatiotemporal transition (as highlighted in tables 5.5 – 5.8 above), sought to transfer knowledge from those leaving the project (designers), to those joining the project (constructors) (Bresnen et, al., 2004; 2005).

Participants in the study talked of a move from a 'conceptual' stage to a 'reality' stage and were concerned that those joining stage two would not understand the specifics of the contract and the conditions and agreements from the TWAO in a timely manner. They were also concerned with regards to the values enshrined in the management protocol and this will be discussed under the 'value frame' of the chronotope below. These uncertainties expressed by the participants, in conjunction with the perceived breakdown from the workshop of 29th June and the impending departure and arrival of design and construction staff, was a major factor that influenced the revision to the management protocol and this is the subject of the organising routine that that will be discussed in section 6.3 below.

6.2.5 Roles and characters

The main protagonists in managing the transition were a senior management team structure made up of members between the client and the contractor which was

presented in Chapter Five above. I took a lead role in this senior management team and I saw the formal sanction of the project into stage two as my primary responsibility and potentially (and as it turned out), my final main task before leaving the project. My fellow director from the contractor departed in March 2016 (retired) and as a part of the formal succession, his project manager succeeded him and physically relocated in the office to sit next to me.

The emergent change of this team on the overall management of the project as it transitioned from design to construction was a central feature of this study and as presented in Chapter Five, while in general the individuals themselves remained, their roles changed. Beyond the senior management team was a wide range of actors that included internal stakeholders from both the client and contractor organisations. Within the client organisation this included internal functional departments who were accountable for the functional oversight of specific elements of the project and who provided project team members who worked directly under my control.

Most notable was the engineering oversight function which influenced the progression of the detailed design and was instrumental in achieving the design on time when it had become apparent from the 29th June workshop that the design would not be completed in time for the Key Date of February 2016 (capitalised as it was a contractual date). This is the subject of the designing routine and discussed in section 6.3 below. Secondly was IIPAG, the external assurance team from TfL described in Chapter Two and who were responsible for the oversight of the overall performance of the project and who would review for, and report back into TfL in support (or not) of the full sanction paper submitted to the TfL Board on 17th March 2016. This is the subject of the governing routine and discussed in section 6.3 below.

The main works contractor also had functional leads from both their UK Head Office and their headquarters in Madrid. They also had a wider network of contributors that included 'sister' projects that they had within the UK construction market that became engaged in the project as its construction staff transitioned from that sister project into this project, the main one being the construction manager who became a participant in the senior management team.

External to the project were a myriad of external stakeholders managed by the client organisation through the project sponsor and a dedicated stakeholder and consents project manager, and while these stakeholders were not the subject of this study, their management and our interface with them during the transition is the subject of the consenting and constructing routine discussed in section 6.3 below.

Under the management of the main works contractor was a supply chain of designers and works sub-contractors who were contracted directly to the main works contractor

and while these parties featured in the dialogue within the management meetings recorded, they did not formally feature as a part of this study.

6.2.6 Value frame

As explained in the case study narrative in Chapter One, the resulting 'sociomaterial' practices (Feldman and Orlikowski, 2011; Sandberg and Tsoukas, 2011) of the ICE procurement model centred around two key artefacts: a relational based contract and a non-contractual management protocol. Together, these artefacts relationally and structurally embedded us (Jones and Lichtenstein, 2008) in a shared situated practice that strongly informed our values and beliefs. Specifically, the management protocol sought to align our shared values and objectives, and so help develop a collaborative relationship, an issue that I explained in Chapter Two has been the focus of recent industry reports (Latham, 1994, Egan, 1998; Wolstenholme, 2010). As explained in Chapter Five, it was within this protocol that we set out the organisational structure for the senior management team.

It was the workshop on the 29th June 2015 that highlighted a breakdown in the performance of the project team resulting from this collaborative behaviour. We found that the relationships, perhaps more specifically the boundaries between roles and responsibilities set out in the contract, had become blurred and what seemed like a sense of inertia in progress and decision making. This caused us to 'separate' certain organisational units of the project organisation so that we could focus on our contractual accountabilities and obligations for achieving formal sanction by 21st April. However, this also caused us to continue to espouse the behavioural values enshrined in the management protocol although this organisational separation, and the impending uncertainties described in the meaning making principles above, threatened the ongoing meaning and basis of these values and so the transition saw their re-evaluation as an emerging and necessary activity. This is the subject of the organising routine and is discussed in further detail in section 6.3 below.

6.2.7 Crossing character

In the chronotope described by Lorino and Tricard (2012), they discuss the 'building' as the crossing character between the chronotope of design and the chronotope of construction. In the 'transition' between these two distinct temporal and spatial stages of construction, the activity of procurement of the works sub-contractors can be seen as the main crossing character and this was seen in the emic perspective of the construction routine, although not the focus of the selected practical event.

While it may intuitively seem that it is the 'design' that acts as the crossing character as it is this 'artefact' that is produced by the main works contractor and formally sanctioned

by the client through its role as the 'infrastructure manager' (and so legally accountable for its safe operation in use'), there are factors outside of the design that are included within the works sub-contracts that describe how the design is to be converted into a 'building' and so how risk is transferred from the main works contractor to the works cub-contractors.

Therefore, and as I presented in the methodology, in this category of the chronotope, and building on the literature presented in Chapter Three with regards to the relationality of action within and between organisational routines (Feldman, 2016), the focus of this category is the relationship between the different transition routines as a variety of actions within each of the routines were found to be relational to the goals and actions of other routines. I describe this in more detail within each routine and their chronotropic category in section 6.3 below.

6.2.8   Artefacts

As mention in section 6.2.6 above, Chapter One presented the contract and the management protocol as the main artefacts and this remained the case during transition. The contract required the production of artefacts and this continued through stage one and into stage two (i.e. management plans, the design, etc.). Most notable during the transition though was the adaptation of specific routine artefacts and the emergence of new artefacts that were borne out of the uncertainties that emerged from the workshop on the 29th June and the need to gain formal sanction by a specific date.

All six routines exhibited this. For the client team this was the need to become more familiar with the project management handbook associated with 'governance' as we had reorganised our project management office team; a new strategy document to explain and gain approval for the revised design compliance strategy; an adapted management protocol; a new tracker to explain the content needed for the Stage Two Works Commencement Notice; and, a new guidance document for explaining the TWAO conditions to the construction team. The understanding, preparation and approval of these artefacts had a significant influence on the temporal patterning of our actions as we interpreted the ongoing performance of the organisation and a need to understand, communicate and complete activities in advance of formal sanction. This will be discussed further within each one of the routines in section 6.3 below.

6.2.9   Boundaries

As Lundin and Söderholm (1995) describe, "We have previously argued that the creation of a project involves the introduction of boundaries, e.g., boundaries in time and in space, boundaries in terms of task, boundaries regarding who is to be involved, and so on. Thus, the fundamental mechanisms for preventing projects from being completed centre on

boundary-opening activities, or in other words on attacking boundary-setting activities when these occur" (1995:453). This was presented in the theoretical framework in Chapter Three as the formal predetermined date of the stages of the temporary organisations life cycle.

However, from the data collected in this study and building on other literature on the concept of transition (van den Ende and van Marrewijk, 2014; Abbott, 2001; Gersick, 1988; Jacobsson et, al., 2013), we can observe an alternative boundary to the transition. The opening boundary to the transition was the completion of the formal submission of the TWAO into the Secretary of State and the 'transition ritual' of the workshop on the 29th June – one a planned project output, one an emergent breakdown. The right boundary is the formal sanction which was approved in March and April 2016 and this is the subject of the governing and contracting routines. Beyond this date, in enacting the new patterns of the senior management team to manage stage two, it is less clear where that boundary lies. What I felt and observed in the phase three interviews and as I discussed above was that although we had formally transitioned, there was a sense of ongoing 'transitioning', a sense of 'incompleteness' and need to continue the adaptation of organisational routines to meet the new spatiotemporal frame. This is discussed within the routines in section 6.3 below.

6.2.10 Summary

In this section, in the categories of the chronotope (Lorino and Tricard, 2012), I have sought to provide a narrative of the case study 'transition' during the fifty three weeks of data collection.

In the following section I will give greater breadth and depth to this narrative and its chronotope by discussing each of the individual six routines. I will add in each routine their abstract event sequence before in the final section 6.4, discussing each abstract event sequence in turn.

6.3 Transition routines

This section will describe each of the six transition routines in detail. Within each routine, I will describe the emic perspective from the phase one interviews, and then provide a 'composite narrative' (Jarzabkowski, et, al., 2014; Pentland, 1999) of the performative aspect of the routine, drawn from the 'incidents' within the 'practical' events, as they unfolded through the abstract event sequences, adding a summary table for each routine abstract event sequence. I will then finish each routine by providing a summary table of the chronotope categories.

6.3.1 The organising routine

The 'goal' of the organising routine was to reorganise the senior management structure of the project and their supporting non-contractual management protocol so that it would be able to cope with the impending uncertainty of the organisational change from 'definition' (design) stage, to 'delivery' (construction) stage.

6.3.1.1 The emic perspective

During the first phase interviews the participants were concerned that while most senior project management roles would remain static, the impending change from a design to a construction organisation would bring uncertainties with so many new people joining the project, especially against the backdrop of the collaborative environment with which the newcomers would not be familiar. And while the design and build contract offered the opportunity for a smoother transition, there were mixed views on how well this had been managed, depending on which perspective was taken. As can be shown in the quotation below, the client's senior project manager, my direct report, noted from his previous experience that full advantage had not been taken of the opportunity that the design and build contract offered, which coupled with the different collaborative environment, was a potential 'boundary-opening activity' (Lundin and Söderholm, 1995):

> [I020]: "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 organisation, [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 lived and breathed for two, three, years, design, now going into construction, over probably a six-month period. We've got a real changing tide of staff and we've got to almost go back, re-chip those people into our way of thinking, and then move forward. I think that will have a -, that if not managed, it will probably have a

detrimental effect in the performance capability of the project" (I020, Interview 1, 08/08/2015, page 3)

With this impending 'newness' of organisational members, the contractors quality manager noted the need to clearly establish the structure of the team going forward and their roles and responsibilities (I007; I016 – Interview 1).

[I007]: "…The big uncertainty to me is, 'What does the team look like?' because you can't design the system, or have a system, or way of working, unless you know what your team is. That to me, is the biggest uncertainty. I don't know what the team looks like" (I007, Interview 1, 28/07/2015, Page 5).

There was a recognition that this stability was needed not just from an organisational perspective but from completing the design as well, to stop making changes so the design can be incorporated into the procurement for the construction works. The procurement is discussed in more detail in the 'constructing routine' in section 6.3.5. The structure of this new team would include the integration of what is termed the 'Tier 2 supply chain', the sub-contractors who would carry out the actual works for the main contractor. A number of the tier 2 sub-contractors were already on the project as a result of the procurement route and from the perspective of the main contractors' project director, their presence was felt to mitigate some of the impending organisational change, mitigating the concerns of I020 above, because of the time available:

"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, Page 8)

In addition and as discussed in section 6.2, the contractor had a 'sister' contract on a separate infrastructure project ongoing in London at the time and this was referenced as a source of strength and stability to be able to draw on that expertise. The timing of the completion of that contract coincided with the commencement of construction of this project and this enabled the main works contractor to be able to plan for transitioning staff from that project onto this project. The new construction manager who joined the senior management team (I031) being the prime example and as explained by the managing director, this was a key focus for the main works contractor senior management team:

[I024]: There is an expectation of, from many people in C305 to continue working in Bank. We have delivered a very good relationship, certain individuals who were not

part of the [main works contractor] business several years ago but we are working with them in a very satisfactory way and we are proposing some of them to be part of Bank team, and I expect for some others, that may have not have been needed so far, but could be part of the team in commercial roles, planning, admin roles, to move to Bank…as they will be finishing by summer, time-wise matches quite well with when the physical activities, the construction activities, will ramp up in Bank…"

As expressed by I020 above, there was the additional concern of the ability of new organisational members to fit into the type of collaborative culture that we had generated on the project. While such an approach had generally been considered beneficial to the project, it was seen as an uncertainty because it was different from the traditional approach to contracting in the construction industry and came with its own difficulties, as became apparent from the 29th June workshop in an exchange between myself and the main contractor's project director during the first interview:

[I006]: "…but if we talk about people, you and I both know that we've had a couple of years now to look at the group we've got here and we both feel that there's some project organisational changes needed…

[SA]: So, are you referring to events after the 29th June, you know, the senior management team?

[I006]: Correct, yes absolutely…as we move from a design phase to a construction phase, we have [to] transition out of a group of people, we've got 225 people in this temporary organisation right now, doing primarily design. Little bit of enabling construction, but primarily design. In a year's time we'll have 200, 300 people doing primarily construction and not design. That's a transfer of quite a lot of people, and as we discussed earlier, this is a new environment, a collaborative environment, where you and I have tried to embed behaviours by leadership, by putting certain mechanics in place to allow people to collaborate. When we see new people come onto the project, we see them transition from a preconditioned previous history in the way they act in this theatre of construction, into the way we do at Bank, which is a far more collaborative, supportive, challenging but open communication style. Some people do it very naturally, and other people probably will struggle ever to do it, because we're human beings and we're all different. Some people's preconditioning is so embedded, and their nature and nurture means that they're not naturally able to move to what we want" (I006, Interview 1, 27/07/2017)

This overriding concern of the impending shift from one temporal zone to another (Abbott, 2001) and recognition of the different spatiotemporal perspectives of participants (Emirbyer and Mische, 1998; Rescher, 1996) was an overriding concern that permeated throughout the phase one interviews, remembering that I undertook these interviews just after the workshop of the 29th June 2015. The extent of this uncertainty led to G5 focusing on the restructure of the organisation and the adaptation of the

management protocol to mitigate this uncertainty, which is the subject of the practical event associated with this routine.

6.3.1.2 The practical event and incidents

The primary outcome of the workshop of the 29th June 2015 for us as G5 was to restructure the SMT organisation, which ultimately led to the 'goal' of restructuring the organisation and rewriting the management protocol. While we knew there were going to be organisational changes around the time of the transition, the outcome post transition of a new management protocol and senior management structure was one that emerged over time, as opposed to a pre-defined task with a predefined date for completion. The 29th June workshop was a shock to us as G5, we had been engrossed in the TWA and lost focus on the performance of the rest of the organisation, which was summed up nicely by the main contractors project director:

> *"Look, Monday was good. I've calmed down now. Monday was good. Just we woke up and smelt the coffee, there's something wrong with this structure." (Incident 1, G5, WK 1, pp1-7)*

We reflected on what had been happening to us as a management team over the last three years and what was needed for transition. We restructured the SMT to a smaller group and within the client and contractor organisations created Project management Offices of slightly different designs but with the same purpose of managing the governance through transition. We had previously joined the PMO functions and this change led to a degree of separation as an 'inter-organisational' unit, but this was felt necessary and we continued to espouse the values of good collaboration, but also recognised, as I state in the quotation below, the necessity for each party to focus on their obligations for transition:

> *"…I've noticed that, regardless of kind of moving apart a little bit, we've got some serious work to do within our own organisations 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)*

This acknowledgement set the tone for the whole transition, with the resulting new protocol incorporating explanations of what our expectations were around the balance of administering the contract and acting collaboratively. Following the restructure, external consultants interviewed the members of Bank Board, G5 and SMT over the summer of 2015 which resulted in two separate workshops, firstly between G5 and Bank Board, where it was recognised that structures written into the original protocol,

specifically around commercial items that had corporate implications, were, as highlighted by a member of G5, perhaps best dealt with outside the protocol:

"So, I think if the two corporations are not going to use the mechanisms of the Bank Board for commercial reasons, and I can understand that, take that out of the objective of the Bank Board and realign it to where we think it can add the most value…" (Incident 10, BB, WK 15, p7)

The second workshop was two days away with G5 and SMT where we questioned and challenged our management approach and sought to identify new ways of working. The outcome of this was to start preparing a revised protocol and it prompted a new impetus in both collaborative behaviour and contract administration, as myself and the contractor's project director emphasised in the subsequent SMT meeting:

"[SA] - There's no doubt that we are, kind of, all re-chipping ourselves a little bit if we go out of, you know, stage one into stage two… The expectation is that there is full and proper due diligent administration of the contract, and we are not able to collaborate unless we do that… [I006] - we are saying have dialogue, try and reach a consensus before you go into writing, don't stop collaborating, but verbal communications mean nothing on this contract…" (Incident 20, SMT, WK 22, pp 40-42)

Post these workshops, we started drafting the new protocol, involving further interviews and discussions between the parties. We were awarded the TWA at this time, which acted as a key turning point and oriented us towards transition, which gave a greater sense of questioning by the contractor's project director around the behaviours and structure that was emerging:

"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 organisation, is you're always continuously trying to get that balance right." (Incident 35, G5, WK 34, pp5-14)

A key turning point in this routine was a meeting between myself and the contractors new project director [I018] in week 35. His questioning of the purpose of the type of relationship we had regards collaboration and contract administration had been growing over a number of weeks, as shown in the quotation above. At this meeting I presented

my final version of the revised protocol where I incorporated the definitions of 'cooperation' and 'coordination' and the types of coordinating mechanisms we would be using to mitigate the organisational uncertainty resulting from the need to solve these two organising problems (Söderlund, 2011; Thompson, 1967) and we both presented this for approval at the Bank Board in week 35:

> *"I [SA] tried to structure it [protocol] around this cooperation and coordination and these mechanisms, which is the little bit that I've taken from some of my studies which I think just helps…what is the document trying to do? Just get us to behave properly or manage the contracts? I think it's trying to do both."* (Incident 33, BB, WK 35, pp12-44)

So the protocol and its associated organisation structure was approved in principle at this board meeting, the original project director from the main contractor left the project (retired) and we started to implement the new structure, along with the construction team starting to arrive, the enabling works starting and the design packages starting to be signed off and I expressed this during one of the SMT meetings:

> *"So, I thought the breakfast meeting was really good. It was great for [I018] to do the introduction… that…notified a change from designing to construction… that led on really nicely to [I031], and it was great how we weaved the introductions of all the [construction] people coming in… and [I003] and [I020] sitting downstairs, and [I018] moving up …"* (Incident 37, SMT, WK 42, pp1-2)

The focus in meetings then started to shift towards construction. With the implementation of a large number of new practices being put in place as we moved from design to construction, as G5 we were relying on the new structure of the SMT, what we had now termed the 'operational coordination group' to be our organisational mechanism to resolve these early issues. However, at this stage, now that we had full formal approval from TfL to proceed, our expectations of the performance of the new organisational unit were 'thwarted' when their performance did not match the potential we thought it would and I expressed my disappointment to this:

> *"… I think, we put a lot of faith into the management protocol…Where's the operational coordination meeting? I want it up and running. In good faith, we put that protocol together to try and put a structure in place that can focus on that day-to-day management. For whatever reason, we haven't done it and we're reporting on all these issues ..."* (Incident 46, SMT, WK 50, pp21-24)

It felt like a year later we were starting again from the frustrations of performance pre-transition (June 29th workshop), through to these early stages of the new practices taking

some time to be embedded. Table 6.1 below provides a summary of the abstract event sequence stages of this routine:

Organising routine abstract event sequence summary					
Stages	Stage	Stage 2	Stage	Stage 4	Stage 5
Weeks	1-6	6-22	22-36	36-42	42-53
Description	Awareness of breakdown and reorganisation	External review and Away days	Questioning client contractor relations; revising protocol	Approval of revised protocol and organisation structure	New organisation structure implemented

Table 6-1 - Summary abstract event sequence of organising routine

6.3.1.3 The chronotope

From the incident data of the practical event for this routine, and having described its sequence over time, table 6.2 presents the categorical dialogical structure of the organising routine in the form of the chronotope.

	Organising routine chronotope
Temporal frame	No formal ex-ante defined date; driven by general move from design to construction and a desire to have the new structure in place ready for stage 2; succession plan of staff driven by contractual requirement; socially constructed timescales for the new organisational units to be in place
Spatial frame	Physical: office based; external spaces used for workshops.
Meaning-making principles	A mix of both contractual requirements and the relational protocol; The need to work interdependently alongside the governance of contractual obligations.
Roles and characters	Primarily G5 driving the change; the Senior Management team, the Bank Board members, Bank Board external Chairman; external consultants reviewing alliance structure and facilitating workshops;
Values	A shared desire to build on the strong relationships built to date; eager to maintain what was different about this relationship and the belief in its values
Routine relationship	Strong link with contracting routine – commercial managers became a part of the new project executive (G5).
Artefacts	The management protocol; presentation material at workshops
Boundaries	recognising the breakdown in performance of old relationship, through the new protocol, to breakdowns in expected performance of the new organisation structure.

Table 6-2 - Organising routine chronotope

6.3.2 The governing routine

The 'goal' of the governing routine was to gain formal approval to proceed from stage one to stage two within the governance framework of TfL described in Chapter Two. This was predominantly a client activity, much of which fell outside of the data collection for this study, yet clearly the performance of the project to date and the future forecasts were an important part of this process and as much of this data was to be provided by the contractor, it was therefore subject to dialogue in the management meetings.

6.3.2.1 The emic perspective

My role as the project manager had a primary focus in the transition - it was to support the project sponsor in securing the formal approval of the project to proceed into stage two. This would be the fifth time since I joined the project that the sponsor and I went to the TfL board for investment approval. This is how I described it when I prepared my own responses to the first interview questions:

> *"One of my main accountabilities is to take the project through the transition in respect of governance; so for me the main steps are to bring the necessary work for this stage to a successful completion, for this transition mainly therefore design compliance and the TWAO; then to prepare all the necessary governance paperwork including costs, budget, risk etc. and take this through the TfL gate assurance process; then submit the papers for the necessary board meetings, including all the briefings of senior managers in advance of these board meetings, and present the papers to the boards." (My question responses 27/07/2015 – 08/08/2015, page 1)*

This was an activity I had done a number of times in LU on previous projects and in general had become a specialist skill of mine, including developing internal management procedures. The process is governed by the TfL Pathway project management handbooks, which are in effect the deterministic and prescriptive routine of 'gating the process' as explained in Chapters Two and Three (Winch, 2010). There is a formal stage gate process to go through within the project and while I observed some small elements of this as a part of this study, as discussed above this activity predominantly fell outside the organisational unit being observed, and predominantly within the client organisation only. Yet as the client team, this gate was necessary in advance of the formal external review for investment approval and the extract below from the clients PMO manager shows how the formal process orients the organisations not just to the past but the condition of the present and preparation for the future:

[I013]: "… we've got Pathway which is the project management tool…There's deliverables under that Pathway system… who prepares them, when they're going to be prepared by, so that we can sit with the sponsor and go through the gate four. The gate four also is a requirement to kick off the IIPAG review later. You need at least a conditional pass to have gone through… I've had to learn a bit more about what we need in terms of going through the gate into the delivery stage kind of thing…it's not just me that was ignorant of that process, other people within the team were… we've done very much a focus on the design and very little focus on the stage two construction which is really unchanged since we went to tender so now we're looking at the stage two programme and really turning that into a document that we can actually build and deliver the works for and how we phase the works around keeping the station open and so forth. That's a big transition. Stage one is coming to a close. We know what we need to produce in terms of our design deliverables and where we need to be to get insurance, so the focus is now coming on the cost and the timescales, durations of building the next stage of the project."
(I013, Interview 1, 29/07/2015, page 5)

With regards to the main investment approval, the perception from the clients project sponsor was that because we have done this before, this would be a 'routine' activity, the primary focus would therefore be on transparency in the data when reviewed by IIPAG, and their perceptions of the extent of risk and uncertainty in the project:

[I014]: …I think the biggest challenge we're going to have is, any residual issues IIPAG have with us, because it's their last stab at, not necessarily for the wrong reasons, their last bit about where their concerns are particularly around EFC [estimated final cost] [and] risk. I think, whilst we can go through the motions in terms of, yes, we can hold a stage-gate, we can hold the interviews, we can provide them with the estimates, we can show that our documentation is up to scratch, they still will have those residual issues with their risk. I think the biggest challenge we're going to have is convincing them that we are in the right place… We understand where we are and we're managing it. From that, we also have to convince the business. That's the same, because obviously, you know, this is the most attention they're going to pay to the IIPAG report, because you're about to go into implementation...We are in the right place. Most of that is perception that's given in short interviews rather than, you know, you've got our project execution plan and you've got resource planning, and you've got, you know, all the business case, and you've got updated funding submission. All those things are just-, …They are routine, yes. They are fairly standard. There's a list. We'd be foolish if we got them wrong, given the number of them we've got through…"
(I014, Interview 1, 31/07/2015, page 4)

This perception of the stage gate governance as less about finalising formal documents and more about perceptions of uncertainty in terms of 'progression', emerged during the

phase one interviews. Much of what is going on, especially under a design and build contract means that there is no clear start or finish between design and construction and this is why the transparency of data in the ongoing flow of time was seen as important from a quality management perspective:

> [I007]: *"Also, because I think projects, you know, they don't suddenly go, 'Boom,' from design to build. What happens is it happens, 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 and working in Arthur Street, so naturally what happens is that there is that gradual learning, so that when we do do something [construction], people have already gone through that learning process progressively…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, page 5)

Thus, there was a need to convince reviewers of control of the project, to manage perceptions of control with the movement of items within overall budget/scope and to manage perceptions of control of items that are inside or outside our control. The project team saw this as a need to be transparent.

These two concepts of demonstrating control and transparency were applicable internally within the project, as it was externally to IIPAG. The reason for this was that although this was a design and build contract, the Stage Two Works Commencement Notice clause within the contract (discussed in Chapter One) meant that LU needed to issue a formal commencement notice for stage two of the contract. As this formal commencement notice was provided for within the contract, this has been described within the 'contracting' routine in section 6.3.3 below.

6.3.2.2 The practical event and incidents

The successful approval at TfL Board in March 2016 was a great success for the project. As explained in section 3.2, these are often critical failure points of a project of this type (Miller and Lessard, 2001). IIPAG took only an overview, while the detailed review was left to the TfL assurance team. We were proud that they had not come in as they had confidence in the strategy of the project as they had been regularly working with us. The review would be limited to due diligence on the detailed build-up of the construction stage plans.

As discussed, the governing routine was predominantly a client focused activity but it was necessary for the contractor to provide much of the evidence of the progress of the project and its projected outcome. As I discussed in the organising routine, following the

29th June the main element of the restructure was on the PMO for both client and main contractor and in the weeks following, this was established and up and running and as a client this was important as they prepared the information for the assurance review, but I felt confident in our approach:

> *"I think it's a critical move for us in LU. We have huge amounts of accountability in terms of going and getting the funding, and one of the other interesting things coming out of the interviews is we kind of think of these two stages of design and construction, but so much of the conversation was about, no one really talked about the date. It was all just a progression of activities, and when we come to get our funding, that's it. We're just going to have to persuade the business that all the activities are progressing at that particular stage and wherever they're at, give them the confidence that they should give us the money to carry on." Incident 7, SMT, WK 6, pp2-3)*

> *"…this is the fifth or sixth time, as a project team, we've been through TfL Board. So, actually, that's not the complexity. You know, we're pretty certain about what we've got to do there. So, everything we need to feed into that is the difficult bit." (Incident 8, G5, WK 6, pp17-18)*

Over the summer and into the autumn of 2015, we gathered the necessary evidence together and commenced the external assurance reviews that were undertaken by the TfL Assurance team. As a team, we also contracted with external consultants for our own purposes, to help us (client and contractor) understand the accuracy of our schedules and budget. The main problem here was that the timing of these reviews and the information expected was out of sync with the production of information within the project as were still some months away from having a design that could be scheduled and priced in the detail expected. But we had no choice. Not only did we have the 21st April as a fixed date in the contract, but we had to go to TfL Board in March 2016 as this was scheduled in advance of Mayoral elections and the summer recess and would not happen again until autumn 2016. So for myself and the project sponsor there was greater pressure on ensuring that confidence was provided:

> *"We're…being driven to get to a higher degree of granularity earlier that you ordinarily would be...because of such early timings around that review. So, it's a bit of a double-edged sword in that sense…We've got more information available here than you would ever have in any other contract. So we should make our forecast as detailed as we can make it with reasonable assumption, based on the information we have…Agreed but there are still those external people to convince that that's the case and they will come in…They're bound to be doubting Thomas's, by the very nature of them, I agree." (Incident 11, G5, WK 14, p8)*

> *"We are currently putting a pack together of evidence against their lines of enquiry and I think we'll have quite a difficult ride, in fact, a very difficult ride, around*

increases in costs, risks allowances for property and compensation. So, I'm
expecting quite a difficult time. They will also come in and review the design and
they will come in and review the Dragados cost forecasts and our own forecasts and
our risk" (Incident 18, BB, WK 19, pp18-19)

Despite these challenges the review went well and being awarded the TWAO in December 2015 as these reviews came to a close and the early funding papers were submitted and approved at the various governance boards prior to the main TfL Board, our confidence in gaining formal approval grew. While we attended some of these early boards with the directors of LU, we did not attend the main TfL Board but it was successfully approved on the 17th March 2016. Although the IIPAG reviewers did not come in for this particular funding submission, they were cognisant of our own internal due diligence and post formal approval, they planned to return in June/July 2016 for an annual review as funding pressures started to mount within TfL and as I reported to the Bank Board.

> *"We're going to have [IIPAG] coming in before the end of June. That's going to be a*
> *very sensitive thing to manage … We all need to be aware of that, as a project*
> *team… we are coming under a lot of pressure to save money."*

> *"M: Yes, I think IPAG are in a different position because of the change of mayor and*
> *all that kind of stuff. I think they're going to come in and look at it very differently to*
> *how they did before. I mean, when we went for funding in March, Gary, they didn't*
> *even come in. That's how much confidence they'd grown in us.*

> *M: Like you say, it's a new mayor now, and so, again, unfortunately we work in that*
> *political environment." (Incident 41, BB WK 51, pp14-18)*

This routine therefore, while specific to gaining formal sanction, continued post transition and into the construction stage, with both the wider context and the permanent organisation influencing the temporary organisation. Table 6.3 below provides a summary of the abstract event sequence stages of this routine:

Governing routine abstract event sequence summary					
Stages	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Weeks	1-6	6-22	22-36	36-42	42-53
Description	Reorganising for the PMO to manage the governance process	Collating evidence for external assurance review	Assurance reviews; drafting papers and early stages of approval	Formal approval at TfL Board	New practices to manage ongoing IIPAG review

Table 6-3 - Summary abstract event sequence of governing routine

6.3.2.3   The chronotope

From the incident data of the practical event for this routine, and having described its sequence over time, table 6.4 presents the categorical dialogical structure of the organising routine in the form of the chronotope.

	Governing routine chronotope
Temporal frame	Specific calendar schedule specified by the client organisation where final project sanction was to take place in March because of Mayoral elections and then summer recess, causing the funding submission and external review to occur prior to the completion of activities expected to be complete for full sanction to take place.
Spatial frame	Moving between project office and client head office; Predominantly internal to the client.
Meaning-making principles	Formal governance process, client team had experience, good understanding of the needs of the processes; about giving confidence internally and externally when being reviewed by corporate functions.
Roles and characters	Predominantly internal to the client; external consultants employed by TfL and project; All experienced in going through this process and all experienced with the client organisation; contractor to supply information
Values	Client organisation wanted to show openness and honesty to maintain the confidence that had been built to date, while also being resolute and defending their position to secure the full funding. Critical for the overall values the management protocol that project seen to be a success and gain full sanction.
Routine relationship	Interface predominantly with commercial and construction planning routine. Some interface with organising routine as values espoused and process discussed at 'breakfast meeting'.
Artefacts	Primary: Funding Paper; Evidence folder; External reports; Secondary: budget forecasts, schedules, risks registers, stage gate process checklists and certificates.
Boundaries	Timing to commence collection of data in advance of IIPAG review, through formal approval to impending IIPAG review in July 2016

Table 6-4 - Governing routine chronotope

6.3.3   The contracting routine

The 'goal' of the contracting routine was to obtain the contractual instruction from the client to the contractor to proceed into stage two via the Stage Two Works Commencement Notice (S2WCN). This contractual instruction for stage two and the budget were clear boundaries to the project organisation and played a key role in the transition from stage one to stage two. There was no renegotiation of the budget at transition, which had been set at contract award in July 2013. The need to demonstrate control of the budget was a key part of the external assurance review and formed a part of the internal 'contractual' approval, via the S2WCN. I recorded commercial meetings and commercial discussions and a significant part of my role involved managing the budget and providing confidence to the external assurance reviewers. However, due to

the sensitivities in respect of commercial data and dialogue between the client and main contractor, in this routine I deal solely with gaining contractual approval inside the project.

6.3.3.1   The emic perspective

In the workshop on the 29th June 2015, it was clear that the S2WCN was on the horizon and an important aspect of the transition and this came out in the phase 1 interviews with the commercial managers:

> [I008]: "Going forward, into stage two…is the stepping back more and looking forward as to what is on the horizon, very close now is the stage two, and the impacts of getting to that stage two commencement notice" (I008, Interview 1, 28/07/2015, page 3).

As explained in Chapter One, the S2WCN clause was a bespoke clause and had been put into the contract so that should the TWAO, not be granted, then the client would be able to terminate the contract without recourse to paying loss of profit. This clause created uncertainty amongst the participants due to its bespoke nature and because no detail had been provided in the contract with regards to what constituted acceptable criteria for the client to discharge the clause. As explained by the client's commercial manager, it was purely at the clients' discretion.

> [SA]: "…So, I interviewed [I008] yesterday, who made reference to the stage two commencement notice….?
>
> [I012]: Yes. Well, the stage two commencement notice, I perhaps guess why [I008] may have raised it, is because it's not clearly defined what we want. What are [main contractor] required to produce to go into stage two? Now, although this happened before my time, I'm aware that during the ITT stage, at some point there was a, sort of, a list of deliverables was table discussed with [main works contractor]. Contractually, that list doesn't exist, so it's not in a contract, so I think-,
>
> [SA]: Just, you know, just to reflect on that, because I was there at the time. You know, we explicitly chose not to put the list in.
>
> [I012]: Yes, and I can understand why, because of the constraints and focusing things. You know, from a contractor's point of view, what I guess that [main works contractor] are perhaps a little bit worried about is that we get to a point in time where they need guidance on what it is we want…" (I012, Interview 1, 29/07/2015, page 4)

This meant that there was an implicit need, and indeed a desire by the project's senior management team that when moving into stage two, all residual contractual and commercial issues had been sufficiently identified and resolved for there to be confidence to proceed into stage two. In addition to the TWAO and the formal sanction of the project, there were a number of contractual issues that had been unresolved and

left to the end of stage one for agreement (or not!). This was an activity that the Bank board members would play a key role in.

> [I021]: "…I don't think any of them are insurmountable but I think we are going to have to have some grown-up, off the record conversations with our contractor. I would see that I have a role to play in that" (I021, Interview 1, 23/09/2015, page 6).

6.3.3.2 The practical event and incident

On reflection, we would have perhaps written the S2WCN in a different way as it generated uncertainties within the organisation as to its actual intent, not least at the workshop on the 29th June. But at Bank Board it was recognised, as shown in this exchange, that taken into another project it would be done differently, especially its relationship with other key milestones:

> "…I'm about to say there's a lesson learned here for future contracts, should this be used again, because the practicalities are, unforeseen events happen … If key date two is a precedent to stage two commencement notice, that's not the intent for the way the contract was written, I suggest.
>
> What I'm saying is, it's written the way it's written, so it needs regularising and it needs to make sure that the project team are-,
>
> Yes, everybody's agreed what's the right thing to do. What we do now is make sure you can do it in governance and if not, amend the governance, or contract. (Incident 11, BB, WK 19, pp12-21)

Nevertheless, through our initial lack of understanding of what was needed in seeking to understand its meaning through the summer of 2015, it caused a number of issues regards to the constraints and sequencing of work within the schedule that while initially causing concern, helped to understand, over time, the sequence of events and evidence needed to support formal approval of the project. We developed a new artefact, what we called a 'tracker'. A spreadsheet of deliverables that we purposefully designed to be deliverables within the contract obligations. Developed initially by the client team, the tracker was shared with the contractor and then once agreed, formally issued under the contract and became a project tool to help manage the transition, as I explain here at the SMT meeting:

> "In the stage two commencement notice we will be asking for certain things and actually I wanted to mention this about the planning. The stage two commencement notice, we're going to ask for you to demonstrate, all within the bounds of the contract, and we're going to pick certain clauses within the works information that we feel are important to us, either where your performance is detrimental or it's critical for us in terms of complying with our internal processes or the law … We shouldn't be asking for anything that is outside of what is already being asked for in

the contract … Where you're not complying you're either going to comply in the future, and you need to provide a narrative around how you're going to do that … [or] *you need to work with the corresponding LU person and think about how we might change the works information…" (Incident 8, SMT, WK 14, pp12-27)*

The tracker was also used as evidence for the assurance review by TfL to demonstrate how we were managing the transition with the main contractor. It was subject to a number of reviews at BB and used as evidence for the award of the S2WCN which was within the authority of the project to issue.

"Just as a reminder, there is no definition of what constitutes agreement or not to a stage two works commencement notice. The client made that decision pre-contract or pre-tender to leave that open to its own discretion. So, what we prepared as a client was a schedule of items that we felt were important to demonstrate sufficient progress in terms of contractual obligations in order to move from design into construction. Nothing that has been asked for is outside of the obligations under the contract, and the schedule of items is caveated against the provision of a narrative to suggest where we are or we're not on the journey of achieving those things. Clearly, it's a designer built contract, it's not a black and white line, and some things will necessarily continue to progress and develop. We need to have the narrative around the insurance around that progression and development. I think both parties will get to the point where there are certain items that need to be - how do I term it? Sufficiently progressed and closed out before the notice gets issued." (Incident 17, BB, WK 30, pp1-10)

The STWCN was awarded on time, before April 2016 and from its early uncertainty, as described below by the contractor's project director, it became a valuable tool for managing the relationship and the contract and this is demonstrated in the way that it was taken beyond formal issue of the S2WCN and on into stage two of the project and used as a tool to demonstrate the ongoing performance of the team and how those items that were deemed OK maintained that performance, those that were lagging were improving (or not) and where changes to the contract had been agreed, how these were being implemented.

"Okay, so we'll keep this going for, I suspect, at least another board, if not another two. I suppose generally, we've been through this as our two teams. Simon and I, and myself with Andy in a few areas, have been through this and we'd reached agreement on it. There hasn't perhaps been the level of progress that we would have perhaps anticipated, but there has been a bit of disruption over the last couple of periods. I think generally we're still working in the right direction. All the themes are being addressed. We perhaps just need to re-focus in a couple of areas." (Incident 33, BB, WK 51, pp 18-21)

So, from an uncertain bespoke contract clause, designed for this particular project and procurement model emerged an organisational routine that through behaviours of the parties enabled a perceived degree of stability through the transition. Table 6.5 below provides a summary of the abstract event sequence stages of this routine:

Contracting routine abstract event sequence summary					
Stages	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Weeks	1-6	6-22	22-36	36-42	42-53
Description	Recognition of lack of understanding of what the clause means for the project	Understanding relationship with transition milestone dates and developing tracker	Formally issue tracker. providing evidence, presenting to BB	Formally instructing the S2WCN	Tracker as a tool to continue to provide performance assurance to the BB.

Table 6-5 - Summary abstract event sequence of contracting routine

6.3.3.3 The chronotope

From the incident data of the practical event for this routine, and having described its sequence over time, table 6.6 presents the categorical dialogical structure of the organising routine in the form of the chronotope

	Contracting routine chronotope
Temporal frame	Governed by the contract through a regular periodic reporting and the ex-ante fixed date for the funding submission
Spatial frame	Solely project office based
Meaning-making principles	Driven by contractual requirements; a need to have sight of all known performance criteria as it was emerging in time to have shared confidence to transition.
Roles and characters	Primarily commercial teams between the client and the contractor with some external consultants.
Values	Openness and transparency, a desire to avoid conflict. An ongoing focus on assumptions to enable the transparency.
Routine relationship	Interface with all transition routines through the development of the new artefact – the 'tracker', used to create a shared meaning
Artefacts	Centrally focused on the 'tracker', an emergent artefact Software for accounting and budgeting, monthly reports, software to administer the contract,
Boundaries	Emerging from the uncertainty from the 29th June workshop, use of tracker to present to board post formal approval.

Table 6-6 - Contracting routine chronotope

6.3.4 The designing routine

The 'goal' of the designing routine was to achieve 'design compliance' prior to the commencement of stage 2 by the Key date of 23rd February 2016.

6.3.4.1 The emic perspective

The primary tasks and deliverable of stage one was the completion of detailed design. The production of the design was split into two parts, firstly it was concept design, which had been completed in 2014 and secondly it was the detailed design, to be completed by the end of stage one and prior to formal approval to go into stage two. The date for the completion of detailed design was fixed into the contract in July 2013 as 23rd February 2016. This impending fixed date brought a sharper focus amongst the participants as the date approached, especially following the identified breakdown in performance in the 29th June workshop.

There was a sense that this was a move from 'plan' to 'reality' and this brought a sharper focus on the boundary between design and construction which led to a focus on the key deliverables needed in order to complete the design and have it signed off. The issues at hand became more real as the date approached which led to a need to have a balanced view on what was needed as a deliverable, in terms of a document, or artefact, to complete the design. There needed to be a focus on communication between the parties, both formally and informally, to bring design changes to an end to avoid contractual issues between the client, the main contractor and their designers. And while the contract was specific at a high level of the main deliverables in terms of compliance with the client's engineering standards, the finer detail of the deliverables, in relation to the final detailed design and what it was the client needed to see for assurances purposes and what was needed for construction to start was important. There were discussions, as explained here by the contractor's engineering manager, on the need to schedule the deliverables out, to have a shared understanding of them:

> [I001]: … we've been talking about compliance for months now, but at the end of the day we need to get to something in written…In written I'm not talking about contractors, I'm talking, 'Let's put a plan together, this is what we're going to do, this is what we're going to deliver,' and maybe it cannot be 100%, it's not 100% there but it's, at least, a framework to which all of us are working, and we know it's there. Right now, this compliance is, we know we have to deliver something at some moment in time, but we need to, as the designers, Dragados, and then you need to all understand, what is that?" (I001, 17/07/2017, page 6)

A number of the tier two contractors were already a part of the project organisation due to the procurement methodology being used, but participants raised questions as to whether they fully understand what they were doing and whether their roles and responsibilities were properly understood in terms of their involvement in the design. Engagement on such issues as developing safe systems of work, a statutory requirement, and their involvement in designing temporary works and the boundary

between temporary and permanent works, elements that were critical in moving through the transition.

This impending move from design to construction made the team give due consideration to a wise use of their time. This form of engagement in the design in advance of construction was not traditionally available but at the same time, there was a recognition not to lock down decisions to go into the design too early. There was a need to understand what is needed now but give flexibility for later decisions based on clearer information.

6.3.4.2 The practical event and incidents

The 29th June workshop highlighted the separation between progress of the design and the planning for construction, to meet the contracted end date of the project. In the ensuing weeks, it became apparent that there was a need to separate out the design into separate packages to both commence some critical works and because it was emerging that it was unlikely that the design would be completed by the contracted date of 23rd February 2016.

The team recognised this as a sensible approach and there was no great difficulty in agreeing this as a principle. But for the transition and formal approval of the project, the concern was around how we demonstrated that we had control of the design and that the separation into packages was a sensible approach to meet contracted end date of construction. This was discussed at the SMT:

> *"…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, pp18-33)*

Over the following months, it took some time for this process to settle down, for the teams to be able to understand the relationship between the packages and the critical path of construction activities and the design that was needed to go into the procurement of the construction sub-contract packages. As explained below by the contractors' project director, this became a commercial issue as there was fixed profit against the design completion date and of the five packages now proposed, only three would be completed in advance of this date. and so this became an issue that went to the Bank Board:

"We've chosen to change the deliverables for compliance into phases that will facilitate the construction programme which is the intelligent thing to do. The discussion that is not completed is how that affects our cash flow, because if we issue three compliances, get them approved early and get the construction works moving, should we be penalised by not getting cash released until the end of the final compliance. The discussion Simon and I have had is along those lines but we've never discussed it at this board. (Incident 20, BB WK 19, 11-15)

To be able to settle down the complexity of aligning the design and construction works and getting the early packages completed, we established what we called the 'war room'. We had done this before during the TWA and was a way of getting information shared quickly across organisational units, where there were high degrees of interdependency and here I drew on my theoretical knowledge to explain the relationship between interdependency and mutual adjustment:

"When you've got huge amounts of complex interdependencies like that, that are all reliant on each other, but what they call mutual adjustment is the only way you can do that. How are you going to create that mutual adjustment? A mutual adjustment is a really free flowing kind of complex thing and standard weekly meetings just don't allow that to happen, which is why I think the war room or whiteboards are the most effective way of doing that because you can hear people, you can see people, their expressions, their-, you know, you can just see it in the war room, people opening up." (incident 14, SMT, WK 14, pp 18-20)

Despite these efforts in becoming smarter and gathering and sharing information, there was a frustration that we did not seem to be making the material turn out of design, a never-ending search for further information and as a management team we started to push for a change of focus.

"We need to change the focus from design. The only reason I'm designing anything, or we're designing anything, is to get into construction…You know, we're here to build something, not to just design something. I think we've got to start taking a view, [I001], around we shouldn't be scared about saying, 'We'll deal with that when we get to site and we'll put it on the as-built drawings'…It's just moving that into, 'Do I really need to do the design of that widget to the nth degree now, or is it sufficient to get out on site and build stuff, and I'll deal with the last bit when I get out there?' There's a fine line between the two, but a lot of stuff we can just put on as-built drawings and say that's what we've done, rather than trying to design everything in the nth degree of detail."

"Is it something that we can deal with, in front of the line or behind the line? I think that clarity's missing…I think people are coming up with issues, but whether it sits in

front of the line or behind the line isn't abundantly clear to a lot of people." (Incident 24, SMT, WK 30, pp45-49)

These frustrations continued through the remainder of the transition. Some early packages were approved, some got split into further levels of detail and the main package four was delayed beyond the formal transition. Design changes started to emerge and so packages were adapted in terms of their timing and content.

"I was not at SMT so I don't understand this topic …

… Well, as we get close to finishing the design, there are two issues really. One is what's enough for design compliance and move on, and that has some commercial connotations around fee and how costs are distributed between stage one and stage two. Then, it seems as we're getting to the end, design changes are coming in, either necessary or not, and that decision making around what gets moved to the other side of the line, I'm not sure is being done as efficiently as it could be. That's my perception coming out of yesterday" (Incident 28, G5, WK 34, pp5-8)

There was a sense that the urgency to get design completed in a way that was achieved in the early stages of the contract with concept design had just drifted away and the client's senior project manager set out his thoughts on this:

"I'm just going to go back to concept design, okay concept designs not as much work as detailed design, but in concept design, before some of you were here, we [expletive] drove that design every day…, They hit their budget and they hit their programme, and the only reason why they did that was because we drove … day in and day out to get them to the right place. If you're not driving them, this is what we end up with. We end up [£xxx] overspent, we end up with it late …" (Incident 43, SMT, WK 46, pp17-24)

Perhaps this was relative to the design coming to a close, causing us to reflect on earlier practices to try to understand why they had not been maintained through to the end of this stage and how the designers would be incorporated into the revised senior management structure. The early packages of construction commenced on time and we gave sufficient confidence to the TfL assurance review. At the time that I stopped collecting data, the main package of design was not yet fully complete, and as new design issues and emerged from the commencement of construction, the designing routine became of complex mix of activities and changes in participants. On reflection, these delays and the resulting over utilisation of resources limited the ability for us to enact new practices from the revised protocol. Table 6.7 below provides a summary of the abstract event sequence stages of this routine:

Designing routine abstract event sequence summary					
Stages	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Weeks	1-6	6-22	22-36	36-42	42-53
Description	Recognise disconnection of design and construction; need to separate packages	Developing strategy relationship between and construction schedule	Enacting the war room to close design and commence early construction	Delay to sign-off of the main design package	Mix of old practices and new as operational coordination group is established

Table 6-7 - Summary abstract event sequence of designing routine

6.3.4.3 Chronotope

From the incident data of the practical event for this routine, and having described its sequence over time, table 6.8 presents the categorical dialogical structure of the designing routine in the form of the chronotope.

	Designing routine chronotope
Temporal frame	Driven by a single Key Date in the contract for full design compliance prior to formal sanction of the project, which became broken out into multiple dates.
Spatial frame	Predominantly office based but multiple external spaces from which design information was gathered.
Meaning-making principles	Technical competence and confidence that risks were reduced in the design phase in accordance with both the contract and legislative requirements.
Roles and characters	Multi-disciplinary design teams; senior design managers from the contractor organisation; legally accountable asset discipline engineers from LU; interface with tier 2 works sub-contractors; external engineers from building owners; third party utility company; LU internal long-term supply contracts.
Values	Progressive assurance where the client and the contractor (and their designers) engaged in an ongoing and regular basis so as to avoid waste in the process of design acceptance at the end of the design stage.
Routine relationship	Primarily the construction planning routine; secondary with the commercial, consent and contracting routine.
Artefacts	Revised strategy document, Building Information Modelling, physical design drawings, action lists from the war room, deliverables schedules.
Boundaries	29th June workshop recognition of late design; boundary beyond formal transition as packages became delayed.

Table 6-8 - Designing routine chronotope

6.3.5 The constructing routine

The main 'goal' for the constructing routine was to procure the work packages for the establishment of the two main work sites, that included the accommodation for all the project staff and the subsequent demolition of the buildings on worksite one.

6.3.5.1 The emic perspective

Central to the transition from stage one to stage two was planning for the main construction works, although it is worth noting that early construction enabling works were already underway in order to divert public utilities in advance of the main tunnelling works. Within this emic perspective, the focus was on procuring the sub-contractor works contracts and developing the schedule.

It is the schedule that underpins the project life cycle. The activities are formed around a critical path driven from the ex-ante defined dates that provide the time boundary for the project. These boundaries are established through time 'constraints' that are placed within the schedule, founded on either contracted fact or a perception of the constraint. The development of the schedule was seen as a key uncertainty as there had been a focus on the activities in stage one, which was now shifting to stage two and so the schedule was considered to remain unsettled and the team were struggling to lock down the key sequences of activities in stage two. As explained by the contractor's project manager, this involved a strong relationship between the construction team and the project controls team who play a key role in developing the schedule as it is within this team within which the planners sat.

> [I003]: *"… because the programme is the guideline and it is not only something that we say…To have a robust programme is absolutely critical, because the moment you have it, it is something that helps you, as a guideline, to be able to understand where you have to go…I think that here, unfortunately, it is taking time to actually update the programmes on time and to use them correctly …" (I003, Interview 1, 20/07/2017, page 4)*

As with finalising the detailed design, time then became a central feature of the emic perspective and as the interviews progressed, as with interviewee I003, I explored this understanding of time further with the contractor's senior project manager:

> [I018]: *On a project, you look at time in two ways. You look at it at a macro level, of a critical path, key milestones, contract milestones, sectional completion and completion and then you look at it on durations of activities, a function of production output. What you generally have in projects is a common theme you have. One team will look at the big picture, another team look at the production picture and then you just hope that the two, at some point, they're going to converge to give you want you want…[talking about change control on a project]…It's a never-ending cycle and I think that's why so many times, the industry, you just get to a point where you say, 'I think this is a fair and reasonable position from a time and cost perspective of why we're-,' You will never get an absolute on time in terms of the relationship between the client, a contractor, a consultant and a subcontractor. There are so many*

variables and external influencing factors….It's like you say, because it's not standardised with people and processes and products, there will always be an element of, you don't really know what you've got until the people are on the shift doing the work. Then you just have to react to that. I think that's why we get so busy as individuals because we just spend a lot of time reacting to stuff" (I018, Interview 1, 04/08/2015, page 5).

As is shown in the quotation above regards time planning, it is the interdependencies between the parties that becomes critical and for the transition between design and construction, these interdependencies are set out in the sub-contractor works contract and so the activity of procurement was also important for transition. The procurement was seen as the spine that connected design with construction. The design is translated into deliverables that are put into contracts and issued out for tender to works sub-contractors, with associated constraints and interdependencies in the same way as for the main works contract between the client and the main works contractor.

[I003]: "One is obviously trying to push forward with all the procurement packages. So, that is obviously very important because we need to bring [sub-contractor] on board for the works in the whole block [work site 1]. We need to start to, for example, buy site facilities, the gantry crane, you know, push forward the temporary works design, and the purchase of those temporary works or contracts that we need for the site set-up in Arthur Street [work site 2] …So, all those different contract packages, or subcontracts, I would say that that is one, you know, key, big chunk of the work." (I003, Interview 1, 20/07/2015, page 4)

This was not perceived as a simple task and there was a need to ensure that there was greater definition of what was in/out of scope for each package, how do all the work packages hang together? how was the performance of the supply chain going to be measured? the decision-making process on what goes into the packages beyond the scope? and so the sharing information and levels of understanding in and between packages was an important aspect of the emic perspective of this routine as set out by the contractor's senior project manager:

[I018]: "…I think, it's very simple in the sense that we, as a contractor, need to define our scope of works packages. We need to go and procure those contracts and then we need to mobilise each contract to be on [site] so they can start work in an effective manner on the date that we say we're going to on the program and it's as simple as that. I think, on all jobs, we grossly underestimate the complexity and level of effort you need for effective procurement…I think, once we get that right, everything else just feeds off that, so, forecast, start on site dates, formal notification under the stage two notice, what works we do before, what works we can do after, they're all meaningless conversations. If you haven't got a package

of work that's procured, ready to start. So, the spine of all this is the procurement

activity and everything else is just incidental really" (I018, Interview 1, 04/08/2015,

pages 3-4)

This decision making and sharing of information between the team members engaged in the broad tasks of procurement was a concern and an uncertainty that was raised during the interviews. Had the design and build contract structure been made best use of by the project team? (I023, Interview 1, 23/09/2015; I006, Interview 1, 08/08/2015)

6.3.5.2 The practical event and incidents

During the transition, multiple fronts were opening up in construction as well as the ongoing utility diversion works. Following the decision rules set out in Chapter Four, I settled on the re-organisation of the worksites and the need for additional accommodation as the practical event for the boundaries of this routine. As a result of negotiation with stakeholders for the TWA, we had lost space in the secondary worksite which led us to question our original strategy for the accommodation of project staff as being one of the buildings we were purchasing on worksite one. A revised strategy was proposed that would involve the revision to a number of contractual, commercial and TWAO agreements and involved the design, construction and consents teams. It was critical to be finalised in advance of formal transition.

Once we had agreed the strategy in principle, there ensued an extensive search of information to refine and agree the available options before formal sanction of the agreed option. As the strategy involved a high level of uncertainty at this stage and the need to meet the transition, building on some of the literature I was reading regards governance of projects (Sanderson, 2012), the team undertook some scenario analysis on the available information and constraints in the programme that enabled us to move forward. This what I recorded in my diary:

"Wednesday 15th July (note written in the afternoon of 15th July) - After the bad SMT meeting on the 29th and in line with my email of 6-7-15 (filed), the first scenario planning session was held … I have been talking about these sessions since I first read Sanderson (2012) back in early 2014 … we clearly have a number of critical path issues where the outcome of certain items is quite uncertain…thinking therefore about how we manage uncertainty rather than risk … I'm really interested to see how this process effects how we behave and the routines we get into) (OAD, week 3, page 4)

These scenario analyses helped us settle on certain options by understanding key constraints, but as time progressed, there was a need to make a decision regarding the

additional demolition that was needed, as this had to be incorporated into the demolition procurement. As G5, we became frustrated with the management team that we were not getting closure on the information search and I made this point to the contractor in relation to how they managed 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 judgement against that incomplete information …'" (Incident 10, G5, WK 15, pp 13-39)*

As we settled on an option, the understanding of the relationship with the necessary statutory consents for the changes we were making became complex. While during the information search we had been making a number of assumptions as information became available and the schedule was updated, we needed to firm this up as there was no time left to keep making assumptions and searching for more information. As time moved forward, we were limiting our ability to make different decisions because of statutory timescales in the planning conditions and as the contractor's project director sets out, the programme was insufficiently robust:

> *"We've got to get smart on our chronology, and this is the point I made, saying are they in the programme is a meaningless statement. Does the programme reflect that the obligations and the constraints with the durations, the links, the risk and the answer to Simon's question is no. We've made assumption over the last six months, there's been drip feeding of information into the programme, we're now moving to a point of clarity…" (Incident 21, SMT, WK 30, pp 14-29)*

By this stage the TWAO had been granted and so there was a need to start using this statutory instrument to get what we needed. Up to this stage we had been very reliant on 'consultation' and relationships with stakeholders. Not that we would now abandon this, but to meet our timescales, we needed to enact the authority we had been given.

> *" … we've got to really use the authority that we've got under the TWA as a bit of a blunt instrument to get where we need and, kind of, remove this-, there seems to be a real fear around [stakeholder] at the moment, and I don't know where it's coming from … we should not be worried about using the full might and power we've got under the TWA to just push on and push on and push on. We've got to get that message flowed down into the team …" (Incident 21, SMT, WK 30, pp 14-29)*

The strategy and preferred option was presented and approved in principle at the Bank Board in week thirty and week forty-two. The strategy was incorporated into the main funding paper and approved at TfL Board. Works were then procured and the revised

strategy implemented. In parallel, contractual and commercial arrangements flowed into the regular commercial routine as the nature of the flow down of statutory planning conditions meant it was a complex issue to resolve. Table 6.9 below provides a summary of the abstract event sequence stages of this routine:

Constructing routine abstract event sequence summary					
Stages	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Weeks	1-6	6-22	22-36	36-42	42-53
Description	Realising need for revised strategy.	Searching for information for option selection	Applying for consents; Gaining Bank Board approval	Formal sanction of strategy at TfL Board.; Instructing contractor	Event fades away and activities moved to contracting routine.

Table 6-9 - Summary abstract event sequence of constructing routine

6.3.5.3 The Chronotope

Table 6.10 presents the categorical structure of the constructing routine in the form of the chronotope.

	Constructing routine chronotope
Temporal frame	Complex multiple schedule constraints that were continuously changing driven by a critical path of activities that themselves regularly changed.
Spatial frame	Multiple spaces with work in the head office, two worksites and other external sites where other ancillary works took place, such as surveys.
Meaning-making principles	Driven by standards and legislation but also mostly the schedule of activities which led decision making in response to multiple incidents occurring outside of the teams control
Roles and characters	Primarily the contractors' construction management team and their works sub-contractors; the clients engineering team, the client's operational managers; interface with external building owners in terms of logistics management.
Values	Multiple new values brought at the start of construction; a get in there and do it attitude, constrained by the knowledge and values of the existing team.
Routine relationship	Strong interface with finalising design, discharging consents routines, commercial and contractual routine (especially with respect to procurement); secondary interfaces with organising routine and sanctioning routine.
Artefacts	Multiple artefacts ranging from management documents, to physical tools, plant and materials on site, including existing buildings.
Boundaries	Realisation of accommodation change at 29th June workshop; Strategy approval at TfL and ongoing commercial discussions.

Table 6-10 - Constructing routine chronotope

6.3.6 The consenting routine

The 'goal' of the consenting routine was to discharge the commitments and conditions once the TWAO had been granted. Works could not commence without this.

6.3.6.1 The emic perspective

This emic perspective was not included in the first manual coding that I undertook in October 2015. Following the completion of the public inquiry and submission of the formal submission of the TWAO, I had made the decision that the project manager running that package of work was no longer needed to be a part of the senior management team and this was agreed in a G5 meeting. This was a misunderstanding on my part with regard to the extent of work needed with stakeholders, the main works contractors' construction team and within our own client management team. The team member was then subsequently reinstated into the senior management team and the role and associated tasks and activities taken more seriously. I recorded this in my diary:

> *"Friday 9th Oct (15:49 – at my desk in the office) …A good chat with* [I026] *as well, we discussed about her coming back on to the SMT and how the void since she left has created gaps, my error but happy to change that back. We then discussed some of the leadership qualities I expect to see from her …. It will be good to follow this change and see how she integrates back in to the team. I will invite her to all the SMT mtgs now and the away workshop" (OAD, Week 15, page 62).*

And so, late in the phase one interview period, I undertook an interview with this participant which turned out to be very valuable. Subsequently, as the transition progressed and the TWAO was granted, it became clear that it should form an emic perspective of a transition routine, although it is only this participant that made any significant mention of it in terms of steps to go through and uncertainties.

> *"Friday 23rd October (16:28 – in the office at my desk) ...leads nicely on to today where I had an interview with* [I026] *… The interview was excellent, I think it captured some really great stuff around the routines for transition because the consents are so critical to that … we discussed how knowledge becomes embedded and embodied ..." (OAD, Week 17, Pages 71-72)*

In the interview, discharging the consents and our knowledge as a team of what was required, both from the client and the contractor was significant. The response in the interview with I026 was so succinct and thorough and gave me an important insight into the project just prior to transition and also heeds a good warning not to consider a transition as 'just a date', as was mentioned in the organising routine above.

> *[SA]: For the record, we have submitted the TWA now then?*

> *[I026]: Yes, we've submitted the TWA. Again, going back to the point about learning the job as you go along, there seemed to be this whole drive towards a*

public inquiry and then, kind of the base information about what you do beyond that stops. What we thought was kind of feet up … has not been the case … we are now kind of catching back up … The run up to the public inquiry was just exhausting. Eighteen months was, you know, exciting, but absolutely exhausting… You get to the public inquiry, everything drops off a cliff, everybody's exhausted, you kind of have a break, but really what we should be doing, and particularly because this project is an ICE, there should have been, rather than a run up to a hard finish, we should have measured it out a little bit more and looked at those resources in terms of, well, the public inquiry is just a date, it's not the end…" (I026, Interview 1, 23/10/205, pages 4-5)

Although we had made an error of judgement, we realised the error and this team member's role going through transition became very important.

6.3.6.2   The practical event and incidents

As discussed above, the consenting routine was added following data collection but as can be seen from the performative description of the constructing routine and as I will show below, it was important for transition. Following the submission of the TWAO, the focus was on understanding the relationship between the contractor and the client with regard to communicating with stakeholders only. This became apparent as a mistake because once we started to explore the options for the accommodation strategy in the constructing routine and having undertaken the scenario analysis, it was apparent that we needed to bring the client PM back into the organisation to support this change and below they describe the extent of the work still to be done:

"We should be starting to prepare all of the Discharge of Permissions, all of the preparatory work for the beginning of the construction works, and within that you need to be looking at the gate reviews that we go through and I didn't, I didn't. I don't think even as a kind of a project-, we knew it was in the distance, but I think it was a lot closer and more integrated than we thought… So, in the interim between now and when we start construction works, it's not as simple as waiting for the Secretary of State to say, 'Here's your Transport and Works Act order,' because that's only one key-, and again, that was a perception, where we thought we'd get the order and we could start digging and it doesn't work like that … there's a load of conditions to discharge … I think where we are now, having an inordinate amount of legal agreements … there are some big elephants in the room. Commitments Compliance Register is definitely one. Moving forward with that and then moving forward to exercising the Land and Works Agreement, to discharging all these conditions, I think we have got a lot of work to do between now and when we start work … Then once we start the main works, if we've got all of that right, which is why the Commitments Compliance Register is so important, if we get all of that right and

everybody is comfortable and we've managed everybody's perceptions, then it should just become a day job" (I026, Interview 1, 23/10/205, pages 4-5)

Because of the high level of uncertainty due to our lack of knowledge of the process, the discussions around the consents started to become a central feature of the capability of the organisation as understood from the organising routine. Because this was a shared lack of knowledge, as the contractor's project director explained at an SMT meeting, it acted as a way of opening up and sharing, with often exposed weaknesses.

"I think this group is well-developed enough as a group for us to air dirty linen. That's a positive statement about this group. In a traditional project review, we'd be keeping that between us and taking it offline. The same with the dialogue about the environmental and consents, we're actually confronting issues as a group and getting more competent at actual saying it. Then we can go away and form contractive positions, and administer it accordingly, and that's what we need to do, but we shouldn't stop doing what we're doing. Which is being open about the issues, and collectively trying to manage them." (Incident 23, SMT, WK 22, p42)

The granting of the TWAO itself was the most significant of turning points in the project and coincided with our preferred option for the accommodation strategy and our efforts to get the commitments set out in the schedule. There were challenges in locking down the 'chronology' of preparing, drafting and submitting documents formally into the statutory authorities, but once formally approved in time to commence demolition and in line with formal approval of the project, it was an opportunity for me to reflect on the way we had as a team worked through some difficult issues:

"So, just to say, you know, I think we all had a bit of a meeting in exec room, didn't we, back in January? Was it January, I think? We all threw our toys out of the pram, because we were fucking nowhere with it came to getting the conditions discharged on time. No doubt there are some to go. There seems to be an endless round of them, but, you know, well done. I mean, I think we've covered a lot of ground between construction and consents over the last couple of months." (Incident 50, SMT, WK 42, pp12-13)

Although this was clearly not the end of the routine and as had become apparent over the preceding months that there was a need to develop additional tools to be able to manage the consents going forward and so we had instructed the client's external legal team to prepare a guidance document, specifically to support the construction team in discharging what is termed the secondary consents:

…" It will be a handy document so that you know what we can and can't do and what those constraints are in terms of the order" (Incident 46, SMT, WK, 38, pp33-35)

It was important that this was flowed down to the construction team as breakdowns in communication started to emerge as the construction stage commenced, with new participants (individuals and sub-contract organisations) joining the project and wishing to revise their approach to planning the works, different to that which had been submitted in the TWAO. It was important then that this new guidance document formed a part of enacting the new routine as what had been established in the design stage, provided significant constraints in the construction stage, as explained by the project manager:

"I think, you know, not to overplay it, but the commitments in Arthur Street are really our biggest risk. So, we've got good relationships with them, but if we breach those agreements legally, we get on the end of some sort of litigation. Our order powers won't protect us because we have a legal agreement with the building owner. So, it's really important that the construction team understand and appreciate that these things are quite sacrosanct." (Incident 60, G5, WK 46, pp 29-32)

So, where there was an expectation at the start of transition that the consenting routine did not exist and that following the submission of the TWA this was now predominantly a stakeholder management issue, it emerged as one of the most important routines and would continue into the construction stage.

Table 6-11 below provides a summary of the abstract event sequence stages of this routine.

Consenting routine abstract event sequence summary					
Stages	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Weeks	1-6	6-22	22-36	36-42	42-53
Description	Restructure of roles from consents to stakeholder management	Recognition consents important to the information search.	Granting of TWA and need to fix statutory timescales.	Granting by statutory bodies of the plans that discharge conditions	Enacting the new routine through developing new artefacts .

Table 6-11 - Summary abstract event sequence of consenting routine

6.3.6.3 The chronotope

Table 6.12 presents the categorical structure of the consenting routine in the form of the chronotope.

	Consenting routine chronotope
Temporal frame	Governed by the granting of the TWAO which then applies statutory timescales to its enactment in practice.
Spatial frame	Predominantly office based but stretching wide into the stakeholder community and their buildings, including public spaces such as roads and pavements.
Meaning-making principles	The TWA Order process was new to the team and there was a reliance on external specialist support to be able to interpret the enactment of the conditions as set out in the consents that had been granted and the legal agreements with stakeholders
Roles and characters	Small internal staff numbers, a disparate number of specialist external consultants, multiple external stakeholder ranging from private to statutory bodies.
Values	The project had been communicating with stakeholders over a number of years as the project had been developing. Consistency in the project team that interfaced with stakeholders seen as a strength to maintaining relationships.
Routine relationship	Primarily with the construction routine, but also the commercial, design and governance routine. Some interface with the organising routine
Artefacts	Predominantly the TWA Order, legal agreements between the client and stakeholders (predominantly building owners), Stakeholder newsletter, temporary spreadsheets with financial information.
Boundaries	Started with error in understanding role and ended with highly integrated roles between teams.

Table 6-12 - Consenting routine chronotope

6.3.7   Transition chronotope summary

Having provided a chronotope for each routine, Table 6.13 below summarises those and provides, in line with the work of Lorino and Tricard (2012), a 'transition' chronotope, connecting it back to the literature presented in Chapter Three.

6.3.8   Summary

This section has provided the detail for each individual routine. I firstly explained the emic perspective of each routine before describing the performative aspects taken from the incidents of the practical events. I did this through a composite narrative, which allowed me to then summarise the abstract event sequence for each routine. Following this, the dialogical categories in the form of the chronotope were presented.

Following the work of Lorino and Tricard (2012), the section 6.3.7 then presented the project 'transition chronotope'. The final section of this Chapter Six, section 6.4, provides a detailed explanation of the five abstract events that make up what I have identified as a 'recursive process model of transitioning'.

	The project transition chronotope (part 1)
Temporal frame	Clock time through milestones, four weekly business cycle; socially constructed time around perceptions of completeness of information to meet these milestones within the business cycle – "Constituted by, as well as constituting ongoing, human action" (Orlikowski and Yates, 2002:689; Lundin and Söderholm; 1995)
Spatial frame	The physical situation is changing over time, through changes to worksite and office arrangements. The spatial movement over time influences agentic dialogic action. (Emirbyer and Mische, 1998; Lundin and Steinthórsson, 2003; Rescher, 1996)
Meaning-making principles	Balancing 'cooperation' (form of contract, TWAO) with 'coordination' (Management protocol, past shared values) in for boundary setting activities and mitigating boundary opening activities through understanding routine 'goals'. (Söderlund, 2012; Feldman and Pentland, 2003; Dionysou and Tsoukas, 2013)
Roles and characters	Relative stability in project actors themselves (small number left, small number joined), but actors' roles changed (promotion, new role created) over time through the transition (see Chapter Five, table 5-5).
Values	Embodied and embedded in human actors and non-human artefacts from a shared history in the ICE procurement, but challenged at transition, espoused to maintain stability and then (re)created to the new spatial and temporal trajectory (Emirbyer and Mische, 1998; Howard-Grenville, 2005; Bakhtin, 1981)
Routine relationships	A complex network of information exchange, where the boundaries of repeatable and recognisable patterns of interdependent action are (re)configured by the dialogical action relative to perceptions of causal relations (Lundin and Söderholm, 1995; Pryke, 2017)
Artefacts	Evolution of existing and the creation of new artefacts that acted as 'connectors', ways of reconfiguring structural aspects of routines between stages, filling in information and knowledge gaps, reducing incompleteness and uncertainty in attaining routine goals (Feldman and Pentland, 2003; Knudsen, 2008; Becker, 2004).
Boundary	The transition was both planned and emergent bounded by recognition of limitation of old practices and enacting new ones, supported by formal clock time milestones and transition rituals (Lundin and Söderholm, 1995; van den Ende and van Marrewijk, 2014)

Table 6-13 - Transition summary chronotope

6.4 Abstract event sequence model

As discussed in Chapter Four and Chapter Five, I followed the strategy of Van de Ven (2007) and Langley (1999) and through temporal bracketing and visual mapping, I put the incidents I identified from the practical events of the routines into chronological order, through the project's four-weekly, thirteen period business rhythm. I then used the concept of transition rituals to assist in identifying the boundaries between the abstract event sequences (van den Ende and van Marrewijk, 2014). I presented a summary of this event sequence in Chapter Five, and then within the individual routines in section 6.3 above, I provided a composite narrative of each routine with an individual summary of their abstract event sequence. The 'spatiotemporal patterning of action' within and between the six emic routine perspectives can be categorised as a five stage recursive model of change (Van de Ven, 2007:197). Figure 6.2 below presents a graphic explanation of this model and then building on section 6.3 above a more detailed description of each of the five abstract events is provided, before discussing its recursive nature.

Figure 6.2 shows the TfL accounting periods and the data collection weeks within which each abstract event took place, with the end and beginning weeks overlapping. The arrows represent the movement into, through and out of the sequence of abstract events, while the two boxes along the bottom present the two main life cycle stages, one and two. The dotted red line represents the timing of the 'felt' transition and this is described within the abstract even below, while the full red line presents the formal milestone date of the 21st April 2016 when the project formally transitioned to stage two.
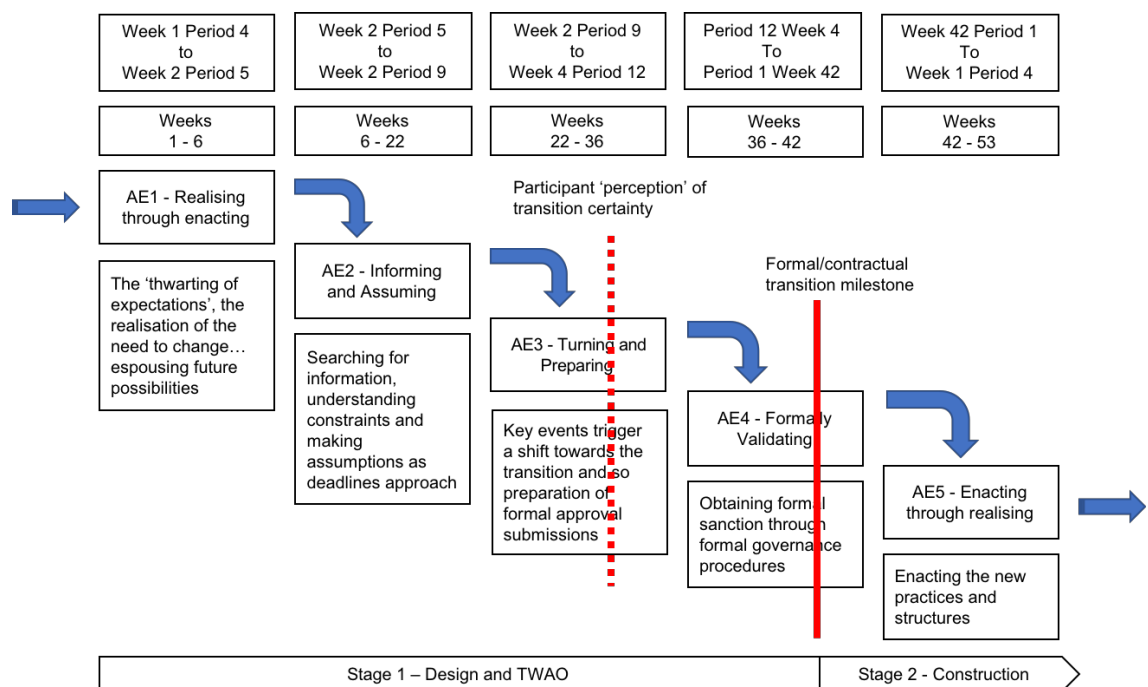
Figure 6-2 - Abstract event sequence

6.4.1   Abstract Event 1 - Realising

Definition: *Drawing attention and problematising an emergent breakdown in the purpose or task of the temporary organisation, or in the performance of an organisational routine.*

The workshop on the 29th June can be characterised as a 'transition ritual' (van den Ende and van Marrewijk, 2014). It triggered a breakdown in G5's perceptions of the performance of the project team. The response was to re-trench into each other's own organisation and focus on what was needed to achieve transition.

> *"So, I'm not talking about breaking anything up or re-structuring, but both parties need to go away and focus a little bit on what it is that they are accountable for and get their house in order a little bit. I don't think our house is in order and we've got to go away and re-shape that a little bit….*
>
> *… I agree with all that and hopefully at the far side, you know, some of these supportive relationships will still be intact and we'll get the collaborative added value that I want. (Incident 1, G5, WK1, p5-8)*

Part of that retrenching involved the restructure of the SMT and the creation within each organisation of a PMO but with slightly different purposes suited to each organisation. There was a greater focus on the future and the goals of transition, which was enabled by reflecting on what had been achieved to date and future end states, which demanded a successful transition. Early strategic 'visions' were made regarding the goals of transition for each routine, either driven from changes in the project task (accommodation strategy, design compliance packages), from the normative corporate or project specific procedures (governance approval, contract instruction, granting of consents) or from the breakdown itself (management protocol). As well as the re-structure of the SMT, they were tasked with the new practice of scenario analysis (Sanderson, 2012) to understand schedule constraints and direct information search. It was the discussion of the outcome of the scenario analyses in the SMT meeting in week six that has been taken as the transition from the early problematisation even sequence and into event sequence two – informing and assuming.

6.4.2   Abstract Event 2 - Informing and assuming

Definition: *Searching for 'information' transition routine goals. A recognition of limited time bringing closure to the information search.*

This extended period of information search and 'problematisation' is where the past and the future become more 'dialogically' fused together (Emirbyer and Mische, 1998:998). Termed the 'practical evaluative' element by Emirbyer and Mische (1998), where incompleteness of information is a natural part of the selection process, the participants

were moving from recognising the breakdown, to both 'accounting' for and '(re)appraising' the ostensive aspect of their actions (Feldman and Pentland, 2003:106) through performing the search for, and evaluation of, the new and emerging information. This 'accounting' and (re)appraising happened through (re)presenting the results of the information search over time, through a number of meetings in the project's business rhythm. These (re)presentations of emerging potentialities were co-created in the dialogical inquiry within the G5 and SMT meetings, where meaning structures, values and references to a multiplicity of people, spaces and timings merged, within existing and new, emerging practices, which (re)created ostensive structures of the routine. The utterances within this dialogical co-creation of the potential and future changes in patterning, resulting from the breakdowns, were 'emotional and volitional' and so 'anticipatory guiding' in nature, and as such provided the team with an evolving and ongoing sense of shared meaning for accomplishing the transition (Shotter, 2008:517).

As time approached the predefined date for transition, the information search was considered 'sufficiently complete' or 'necessarily incomplete' and proposed changes to certain boundary conditions, from the strategic 'visions' were assessed through the introduction of 'assumptions', slowing the information search but speeding up decision making through what Lundin and Söderholm (1995:446) call (re)bracketing of boundary conditions, such as time and task. Although critically, as this information and the assumptions were by their nature incomplete (Knudsen, 2008; Becker, 2004), the ostensive patterning of the routines were held together through espousing the values that had been generated from the 'management protocol' and were at risk from the breakdown in AE1, i.e. the retrenching into separate organisations, therefore binding together both the transactional and relational uncertainties of the organising process (Söderlund, 2012).

As we moved into the following abstract event sequence that I have called 'turning and preparing', I reflected on the information search and the act of closure we were starting to bring to these.

> "Wednesday 28th October (16:44 – in the office) - It seems interesting to me that as we approach what could perhaps be called the apex of the transition, the point of no return I guess, 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'. I discuss this in my literature review both in terms of artefacts and evolution and I did go back and have a look at the quote from Becker [2004] that I have discussed before with [supervisor]. I think this is really interesting, I have seen it before many times. When we create

these sequential 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 to early will fall over in advance of getting there and have to start again …" (OAD, week 18, page 73)

As with the start of AE1 that was triggered by the workshop of the 29th June, the 'transition' from informing and assuming was also characterised by similar 'rituals'. There was the Bank Board in week nineteen where G5 positioned the Board in regards to the status of the 'goals' for the transition routines, the two days away for G5 and SMT in week twenty-one and notably, prior to the formal award of the TWA in week twenty-five.

6.4.3   Abstract Event 3 - Turning and preparing

Definition: *The period before formal validation, when single events or a group of actions provide pivotal 'turning points' towards the transition and the turn towards the final preparation of transition governance documents. It felt like informal approval.*

On the 15th December 2015, we were formally awarded the TWA. It is difficult to overestimate the significance of this event for this team. It had been a central part of the contractual and relational structure of the project since the early days of commencing the ICE procurement model. Without it, formal approval for stage 2 would not be granted. It arrived at the same time that we were entering into the formal TfL governance assurance review and drafting papers for submitting into TfL, and so this gave us a huge boost of confidence. So, week commencing 14th December was a busy week, (including our project Christmas party!) and at the end of the week I had time to reflect on events and below is an abbreviated version of my diary entry, where despite being some months away from the formal transition date (April 21st 2016), I felt like we were making a significant turn towards stage 2:

"Friday 18th December (07:57 – sitting on the 40 [bus] … this week has been a real week of 'transition'…what do I mean by that, well 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 and I guess that is what I will be seeking to observe from my data ... So is there a single trigger, well

yes and no, and as I seem to have been discussing a lot with people this week, it depends at what level, 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. It says so much about the story, the narrative we (I) create at Bank, it builds on the public inquiry being opposition free, the way we deal with stakeholders, having the contractor on board, in fact the whole ICE approach itself" (OAD, week 25, pages 132-135)

Such a 'felt' sense of transition aligns theoretically with the work of Gersick (1988) and Abbot (2001) where we can see in the model in figure 6.3 above that this felt transition occurs at the mid-point within the model. Although it should be noted that the start and end of the model were dates driven by data collection rather than formal task dates (Gersick, 1988). Perhaps an alternative conception would be its timing from the transition ritual of the 29th June workshop or the time gap between the 'felt' transition and the formal date for transition. This is perhaps an open question for future research.

Much of the work in this event sequence involved the preparation of documentation for the formal transition. Whether this was preparing procurement packages (constructing), drafting funding papers (governing), preparing consent submissions (consenting), finalising design compliance submissions (designing), preparing narrative for the S2WCN (contracting) or, finally, the revised management protocol (organising). This shows the importance of the role of artefacts in routines (Feldman and Pentland, 2008) and how recognising the theoretical importance of the incompleteness of artefacts when moved from one stage to the next highlights their role in adapting routine performances across time boundaries (D'Adderio, 2010, Cacciatori, 2008)

It was the second interview with the contractor's new project director which I made into a meeting to discuss the final version of the revised management protocol in week thirty-five that acts as the transition ritual out of this AE3 (van den Ende and van Marrewijk, 2014). It was his concerns over the relationship between managing the contract and our collaborative behaviours that prompted me to incorporate my knowledge of the organising problems of 'cooperation' and 'coordination' (Söderlund, 2012; Grant, 1996) and the coordinating mechanisms to manage interdependency (Thompson, 1967), into the revised protocol. At this meeting, after weeks of some quite challenging times, we reached a point of agreement and shared understanding.

The 'transition rituals' out of event sequence three was both the Bank Board in week thirty-five and my meeting with the contractor's project director. At this stage in the project, we had already passed through the first of the formal Boards to reach TfL Board on 17th March 2016 and therefore we had the confidence that we would now formally progress. Progress with the S2WCN was going well and we had agreed at Bank Board

that in principle we would start the early implementation of the new organisational structure set out in the new management protocol, although it was yet to be formally completed and approved.

6.4.4 Abstract Event 4 - Validating

Definition: *Gaining formal governance sanction at corporate level, issuing the S2WCN at project level and agreeing the relational management protocol at project level.*

The formal governance at client corporate level was closed out with the formal sanction of the project at the TfL Board on 17th March 2016, which had been preceded by the London Underground Board on the 26th January and then the TfL Chairman's Briefing and Financial and Policy Committee Boards in February 2016. This process was a part of the formal TfL Governance process (discussed in Chapter Two and the governing routine in section 6.3), although much of these activities were included in AE3, as they were all subject to final approval at TfL Board.

It also included the internal project governance with the formal sanction of the STWCN at the Bank Board and its related closure of the commercial issues. This occurred in week forty-two and was at the same time that the contractor's project director presented himself for the first time at the project's breakfast meeting (as discussed in section 6.3.1.2 above), and as a 'ritual', I have taken this as the movement from AE4 and into AE5, where, with all the formal governance now granted, we had formally commenced stage 2, the 'construction' (delivery) stage and so started to enact our new practices.

6.4.5 Abstract Event 5 - Enacting

Definition: *Enacting the adapted practices in order to adjust to the change of temporal and spatial frame.*

This final stage in the abstract event sequence was the enactment of the new practices we had put in place, specifically the management protocol and its new structure. In management meetings, G5, now titled the 'project executive' espoused the values of the collaborative structure. We held an away day (4th May) for the team to present the protocol to them, with different members of the new 'operational coordination group' that was the new SMT, presenting their role in the protocol via 'project objectives' for the delivery stage. This stage is characterised by a large number of new practices, not just those resulting from the transformation of the six routines I have presented in this study, but other constructing routines embedded in the new project governance documentation for construction.

This stage was characterised by not only a new and invigorated senior management team that espoused the new relational and transactional structure of the protocol, but by what can be defined as 'temporary breakdowns' (Sandberg and Tsoukas, 2011) in seeking to enact the new organisational structure (and its resulting practices) and the construction stage routines. New practices and new routines were taking time to settle down as new people joined the project. Most notable was the relationship between the constructing and consenting routine.

It could be argued here therefore that this aligns theoretically with the spatiotemporal nature of dialogue where, for example the relationality of dialogic action (Feldman, 2016) between the participants to the constructing and consenting routine (see incidents 59 to 65 in Appendix D Consenting routine Stage 5), the sufficient recognisability of the replication of one routine from one stage to the next (Knudsen, 2008) is relative to the 'iterational' element of the chordal triad from Emirbyer and Mische (1998) and existing team members seek to maintain expectations of past relationships by sharing this knowledge with new participants. As Emirbyer and Mische state, "The maintenance of expectations regarding how oneself and others will act is not automatic: one's expectations about the future can break down…the maintenance work that goes into maintaining expectations has practical as well as ontological importance, allowing not only for a sense of consistent identity amidst change…but also for social coordination within contingent and interdependent environments." (p981)

The closure to this event sequence came from the closure of the collection of data, the commencement of the demolition of the buildings on worksite one and our move to the new accommodation (constructing routine) on the 2nd July 2016. This also turned out to be my departure from the project. This is in no way to suggest that the 'transition' routines were now 'transformed' and 'in practice' as their (re)creation was ongoing (Dionysou and Tsoukas, 2013).

This section has discussed the practical and theoretical observations of the content of the five abstract event sequences. The following section will discuss the recursive nature of the model.

6.4.6   A recursive model of change

Because the five abstract event sequences, which while seemingly occurring sequentially within the model (and indeed I have specifically set it out that way following Langley, 1999 and Pentland 1999), I found that in any of the five abstract events, temporal or spatial elements of a practical event (or their associated incidents) may emerge. For example, a temporary breakdown in a task (AE1), may actually be as a

result of enacting the outcome of a previous change process (AE5). Indeed, AE1 was itself the outcome of enacting previous patterns.

This makes it a recursive process model of change (Van de Ven, 2007), where the dialogic action, created and recreated ostensive and performative aspects of the six routines. This is similar to that developed by Jarzabkowski et al, (2012) in identifying a process model of coordinating mechanisms using the ostensive and performative aspects of the routine, but different because the common trait within this study and what gives the abstract event sequences their structure is that the focus of the practical events is their convergence on the formal ex-ante defined transition date of 21st April 2016, and so transforming the organisation across the redefined time boundary from stage one to stage two. Should the ex-ante defined date of 21st April not existed, it is argued here that the abstract event sequence may have taken on a different structure.

Figure 6.3 builds on figure 6,2 represents these recursive elements in graphical form. This is followed by a description of the four recursive mechanisms.
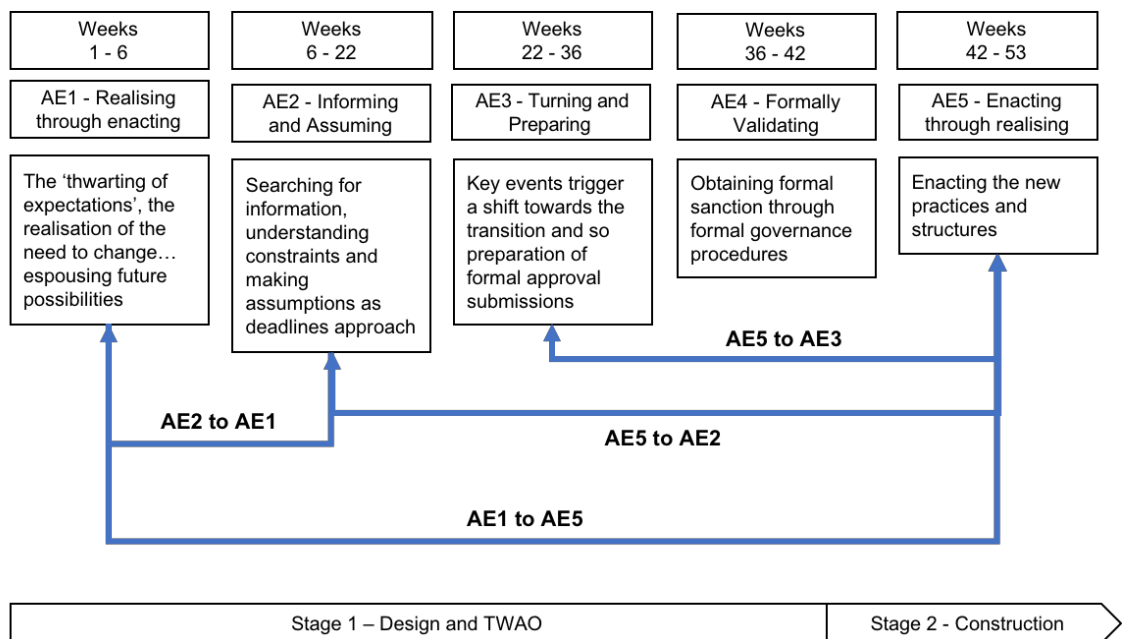
Figure 6-3 - Recursive elements of the process model

AE1 to AE5 – breakdowns in enactment – in enacting the transformation into the new practices, their understanding materialises when the practices are not enacted as envisaged by the senior managers and so the cycle repeats itself (Sandberg and Tsoukas, 2011).

AE2 to AE1 – informing and assuming starts when realising takes place. There is both tacit and explicit knowledge held by the multiple participants who on realising the breakdown, start immediately with searching cognitively and dialogically (ostensive-

performative) for information and knowledge they hold, allowing the teams to espouse certain assumptions of how things may move forward (Feldman and Pentland, 2003; Emirbyer and Mische, 1998).

AE5 to AE2 and AE3 – while the ex-ante defined date has passed, the need to enact the transformed practices seems to become more time critical and so maintaining the expectations from the information and assumptions and their incorporation into the new artefacts from the preparing stage (Feldman and Pentland, 2003; Emirbyer and Mische, 1998).

6.4.7   Summary

This section has summarised the abstract event sequences identified from temporally bracketing and visually mapping the incidents (Langley, 1999). It identified the 'transition rituals' (van den Ende and van Marrewijk, 2014) that helped identify the boundaries between each abstract event sequence. It then summarised the recursive mechanisms between event sequences.

6.5   Summary

This chapter has presented the findings of the study. It firstly presented the six organisational routines, with their ostensive and performative aspects and their dialogical categories (which included the artefact aspect) through the structure of the chronotope. This was supported with a summary table of their change over time through their individual abstract event sequences. This was then brought together and I presented the transition in the form of the chronotope. The second section of the chapter provided a more detailed summary of each event sequence and their 'ritual' transition points before finally discussing the recursive nature of the event sequences.

In the following chapter, before I summarise this thesis and reflect on its limitations and opportunities for future research, I will discuss the studies contribution to knowledge and seek to answer the research question presented in Chapter Three.

7   Chapter Seven - Discussion

7.1   Introduction

Having presented in Chapter Six the findings from the analysis of the data, this Chapter Seven discusses how these findings contribute to knowledge. I propose that my findings contribute in two theoretical areas, firstly with respect to our knowledge of the concept of 'transition' as understood within the predefined time boundaries of the stages of the life cycle of a temporary organisation, through the development of my 'recursive process model of transition'. Secondly, I propose a contribution to the knowledge of organisational routine dynamics through understanding the relationality of 'patterns of action', within and between routines, through the dialogical structure of the 'chronotope'.

In presenting these two contributions, I will firstly reflect back on the organisational phenomenon and theoretical challenge set out in Chapter One, and the research question that developed from the theoretical framework in Chapter Three.

7.2   Problems, challenges and the research question

The introduction in Chapter One presented an organisational phenomenon in managing projects, that of 'transitioning' from one project life cycle stage to the next with 'incomplete information'. I proposed that a contribution to the knowledge of this organisational phenomenon could be made by challenging the underlying temporal assumptions of 'a theory of the temporary organisation' (Lundin and Söderholm, 1995) and 'a new theory of organisational routines' (Feldman and Pentland, 2003), that of newness and repetition.

Both theories draw on the work of Cyert and March (1963) and place action at their centre. Their underlying assumptions are challenged through their different conceptions of 'time' in organisations, where in 'a theory of the temporary organisation' presented by Lundin and Söderholm, (1995) there is an underlying assumption that the temporary organisation does not exist in the '*ongoing present*' until it is '*created anew'* and given, ex-ante, a time delimited life cycle. Time is a basic concept of this theory and "therefore fundamental to an understanding of the temporary organisation" (1995:439). Conversely, in 'a new theory of organisational routines' by Feldman and Pentland (2003) there is an underlying assumption that the organisation '*already exists*' in the '*ongoing present*' and its capability is based on the ongoing (re)creation of routines. Time is an implicit concept within organisational routines as it is their 'repetition' over time that creates their identity. "Through repetition and recognition, organizational routines are created" (2003:108) and

(temporary) organisations are said to become capable through the evolution of routines (Nelson and Winter, 1982; Davies and Brady, 2016).

This 'newness' characteristic of temporary organisations suggests a lack of repeated interaction and recognisable patterns of action within temporary organisations. Project organisations could therefore be characterised by 'organisational uncertainty' at the start of each life cycle stage, making them potentially unstable structures until routines are (re)created and levels of perceived uncertainty reduced.

Chapters Two and Three highlighted that the 'relational' and 'transactional' problems associated with the inter-organisational nature of construction industry was an area from where much of the 'organisational uncertainty' arose in construction project organisations as they sought to manage the ongoing incompleteness of information through the project life cycle. (Söderlund, 2012; Jones and Lichtenstein, 2008; Pryke, 2017; Winch, 2010). I discussed how theoretically the existing conception of the life cycle model was drawn from a 'hard' paradigm and was therefore deterministic in nature (Pollack, 2007), with more recent theorising calling for "The need for *multiple images* to inform and guide action at all levels in the management of projects, rather than just the classical life cycle model of project management, as *the* main guide to action, (with all its codified knowledge and techniques)" (Winter et. al., 2006:642 [emphasis in original])

The theoretical framework in Chapter Three, presented the ontological foundation for understanding the '*incompleteness of information'* (Rescher, 1996) and its understanding in the social sciences and organisational theory as being a spatio-temporal '*dialogical'* inquiry (Emirbyer and Mische, 1998; Tsoukas and Chia, 2002; Hernes, 2014; Holquist, 2002; Shotter, 2008; Lorino and Tricard, 2012). It suggested that the concept of 'transition' within the temporary organisation (Jacobsson, et, al., 2013; van den Ende and van Marrewijk, 2014; Gersick, 1988; Abbott, 2001) was an area that offered an opportunity to explore new images of the deterministic life cycle model and to explore this it proposed a 'practice' based perspective of organisational routines, one that sees the involvement of both human actors and non-human artefacts as being the generative mechanism underlying both stability and change in an organisation and so one which (re)creates patterns of action within organisations (Feldman, 2000; Feldman and Pentland, 2008; Howard-Grenville, 2005; Parmigianni and Howard-Grenville, 2011; Feldman, 2016; Dionysou and Tsoukas, 2013). It then showed that within the literature on temporary organisations, that organisational routines in temporary organisations, specifically project based organisations, was important for learning, knowledge and hence the capability of project organisations (Hobday, 2000; Brady and Davies, 2004;

Davies and Hobday, 2005; Stinchcombe and Heimer, 1985; Ahola and Davies, 2012; Davies and Brady, 2016).

It discussed the centrality of action between these two literatures in relation to 'choice' and 'decision making' (Nelson and Winter, 1982, Feldman, 2016; Lundin and Söderholm, 1995; Jacobsson et, al., 2013) and suggested that when perceived dialogically that 'dialogic action' could be taken as the central unit of analysis (Emirbyer and Mische, 1998; Holquist, 2002; Shotter, 2008; Lorino and Tricard, 2012).

This theoretical framework was then summarised and the research question was developed: "How are 'patterns of action' (routines) (re)created in temporary organisations?" The following sections draw on this literature and the findings from the data to seek to answer this question and demonstrate a contribution to knowledge.

7.3   Contribution to temporary organising

I would like to propose that my *primary contribution* to the knowledge of temporary organising is to enrich the 'life cycle model' of the management of projects with an 'alternative image' that presents the generative mechanisms of 'transitioning' between life cycle stages. This is through the identification of a '*recursive process model of transitioning'* based on the understanding of the *'patterning of dialogical action'* within and between organisational routines (Winter et, al., 2006; Emirbyer and Mische, 2012; Lorino and Tricard, 2012; Shotter, 2008; Feldman, 2016).

As discussed in Chapter Three, a ubiquitous feature of the temporary organisation is the life cycle model (Söderlund, 2011; Morris, 2013), which has become codified in professional bodies of knowledge as structured through stages that present a perception of stability, representing time as linear by fixing a predefined date when the organisation, and its sub-set of sequential stages, will be terminated (Lundin and Söderholm, 1995). Different industries or organisations, with their varying degrees of complexity, have come to structure this life cycle and its stages in a number of different ways (Winch, 2014; Morris, 2013), which has led to calls to "develop new models and theories which recognise and illuminate the complexity of projects – new ontologies and epistemologies – which extend and enrich our understanding of the actual reality of projects and project management practice" (Winter et, al., 2006:643)

I have sought to contribute to these new epistemologies and ontologies by revisiting the 'basic', but 'neglected', concept of 'transition' (Lundin and Söderholm, 1995; Bakker, 2010; Jacobsson et, al., 2013). I presented both an understanding of organisational routines as moving from static and programmable to having a generative effect on the capability of organisations (Cyert and March, 1963; Nelson and Winter, 1982; Feldman

and Pentland, 2003; Feldman, 2016) and of the paradox of unique and routine tasks with regards to developing capability within temporary organisations (Brady and Davies, 2004; Davies and Brady, 2016; Söderlund et, al., 2008; Ahola and Davies, 2012). I have sought to empirically examine via a process ontology (Rescher, 1996; Tsoukas and Chia, 2002; Hernes, 2014; Lorino, 2018) and a practice epistemology (Sandberg and Tsoukas, 2011; Feldman and Orlikowski, 2011; Winter, et, al,. 2006: Blomquist et, al., 2012; Orlikowski and Yates, 2002) how a predefined date for the termination of the 'definition', or design stage in a construction project affects the 'patterning of action' and so the (re)creation of organisational routines in advance of the 'delivery', or construction stage of the project (Feldman, 2016; Dionysou and Tsoukas, 2013).

I followed a process research design of identifying incidents and abstract events (Van de Ven, 2007; Langley, 1999; Pentland, 1999), but also contributed to this by identifying that each of the six routines themselves had their own transition 'goals' and so I identified specific practical events associated with achieving those goals, so as to provide an analytical boundary to the routine, within which I could identify incidents to build the temporal pattern of second order abstract events (van Maanen, 1979; Van de Ven, 2007). Part of the contribution here was to show that each of these practical events within the routines were not 'planned', but emerged as a result of needing to transition by a specific date. I did this through using the literature of Sandberg and Tsoukas (2011), van den Ende and van Marrewijk (2014) and Lorino and Tricard (2012), which is discussed below.

Firstly, Winch (2010) suggests that in the construction sector, organisations develop a formalised routine for 'gating the process', a way of reviewing progress in information processing, to reduce uncertainty and be able to make strategic decisions. Such a routine may be perceived at a capability level in the routines literature (Howard-Grenville and Parmigianni, 2011) and in this perspective, outputs for each of the stages are identified and reviewed as a part of the routine. This routine was evident in the corporate project management handbook of London Underground discussed in Chapter Two and enacted within the case study through the 'governing' routine described in Chapter Six.

The purpose of this study was to identify and observe routines not from an 'etic' (outside), but an 'emic' (inside) perspective. My main contribution is to break open the 'black box' of this 'gating the process' routine (Winch, 2010), in order to look inside and see how 'patterning' (Feldman, 2016) takes place between two distinct spatiotemporal trajectories (Lorino and Tricard, 2012; Abbott, 2001). From this emic perspective of the senior management team, I identified six 'transition routines' (Feldman and Pentland, 2008) and the spatial and temporal structure of their 'dialogical action' through the chronotope

(Lorino and Tricard, 2012). These six transition routines were: 1) organising; 2) governing; 3) contracting; 4) designing; 5) constructing; and 6) consenting.

More specifically, I identified that when seen at this practice level of detail, the generative mechanism associated with the routines revolve around breakdowns in existing practices. These breakdowns showed that there were incidents (and their practical events) that did not form part of the original emic perspective of the routine (as identified in the 1st phase interviews), nor were they explicitly established tasks within the governance or contracting structure for the project. At this level of granularity, these incidents highlight the unique nature of tasks in temporary organising (Lundin and Söderholm, 1995; Brady and Davies, 2004) and further challenge the stimulus-response conception of routines (Cyert and March, 1963) and the non-deterministic outcome of bracketing the temporary organisation by fixing time (I shall discuss bracketing further below).

Drawing on a more 'performative' perspective of routine enactment (Simpson and Lorino, 2016) and a practice perspective of task complexity (Hærem et al., 2015), I would like to argue that many of these incidents materialise themselves from the nature of temporary organising in an inter-organisational setting (Jones and Lichtenstein, 2008; Sydow and Braun, 2018) and form a part of the 'emergent accomplishment' of the routine (Pentland and Reuter, 1994). This corroborates the need to add the identification of the practical event within the method, so as to be able to incorporate both unique and repetitive tasks in the identification and recognisability of routines as the emerge within the situated flow of time in temporary organising.

Referring back to the work of Salvato and Rerup (2010) who looked at the interdependency across multiple levels of analysis, we can see that this pushes the level of analysis beyond routines at an organisational level, and starts to explore further the habits of participants in performing their tasks, from a pragmatist way of thinking (Lorino, 2018). I shall discuss this further with respect to organisational routines in section 7.4 in discussing the role of participant utterances within incidents. I would argue here that that level of analysis was beyond the scope of this study and would require the detailed analysis of specific 'utterances' within routines.

The structural aspect of routine (re)creation can be seen in the introduction of new, or the adaptation of existing, artefacts (D'Adderio, 2010; Cacciatori, 2008) around which 'dialogical action' took place. The artefacts were not the formal planned outputs for the stage gate review, but acted as mechanisms for managing the 'perception of causal relations' associated specifically with gaining formal sanction and transitioning knowledge, across the spatial and temporal boundary (Lundin and Söderholm, 1995). The 'dialogic action' around the artefact was structured around what could be termed the

'inter-organisational' search for and availability of information. I say this as it was within the dialogue (utterances) between the participants to the routine, within the incidents, that the new or adapted artefacts were structured over time. The artefacts and their associated dialogical action formed the pattern for the replication of the routines, not just copying from one stage to the next but by supporting a complex developmental sequences that enabled us as an organisational unit to incorporate the needs (contractual or governance obligations) of the two organisations (and their supply chains and corporate units) as they were transitioning across the life cycle boundary. They were a place where we could embed and carry knowledge between the organisations and across the spatio-temporal boundary so as to provide sufficient similarity between our current practices and what our expectations of what they needed to be in the following stage, especially in light of participants leaving and joining the organisation and the need to manage tasks that transcended the stage boundary (Hærem et al., 2015; Knudsen, 2008; Emirbyer and Mische, 1998).

The timing of this recognisability was relative to the agentic perceptions of the completeness of information, and the five planned, unplanned and emergent milestone dates discussed in Chapter Six. This influenced the timing of artefacts and the dialogical nature of action as the team sought to exchange and process information (Feldman, 2000; Feldman and Pentland, 2003; Winch, 2010; Pryke, 2017) to mitigate 'organisational uncertainty', so as to avoid disrupting the temporal trajectory of the project from the need to gain formal sanction for the next stage (Abbott, 2001; Miller and Hobbs, 2005; Jones and Lichtenstein; 2008; Soderlund 2011).

I use as an example the 'organising routine'. As identified in the theory, the project had developed organisational routines in the early front end of the project that influenced the way it was governed (Eriksson, 2015; Erikson and Kadefors, 2017), and so as a team we were socially entwined in a sociomaterial practice after two years of working together (Sandberg and Tsoukas, 2011; Feldman and Orlikowski, 2011). The workshop on the 29th June 2015, as a 'transition ritual' (van den Ende and van Marrewijk, 2014), created the realisation and awareness of a temporary breakdown in that already socially entwined practice, thwarting the expectations of the senior management team (Sandberg and Tsoukas, 2011).

This caused the project team to restructure part of the organisation and create the goal of re-writing our management protocol and through external support search for information, as our perception of the causal relations (Lundin and Söderholm, 1995) between the behavioural practices we had been developing over the past two years were at risk of being disrupted by the uncertainty of participants leaving the project and new ones joining. We used transition 'rituals' in the form of away days, both pre and post

formal transition, to exchange information and develop a sense of shared meaning and values. The actions discussed in the organising routine in chapter six show how over time, the three aspects of the routine - ostensive, performative and artefact - combine together through dialogic action to develop sufficiently complete understandings to connect the two spatiotemporal stages together.

Similar breakdowns and rituals, which were discussed in chapter six, were found in each of the other six routines and here I emphasise the structural aspects of these and their inter-organisational nature: In the 'governing' routine' we developed the separate LU Exec meeting, brought in external experts whose report (artefact) was used to inform the clients assurance review, which was built around more formal rituals of corporate governance that connected the temporary and permanent organisation (Jacobsson et, al., 2013); In the designing routine, the separating of one design submission into five led to developing a strategy document that structured the commercial and design approval mechanism between the client and contractor organisations and establishing the 'war room', an emergent ritual based on past experience (having been enacted when finalising the TWAO) and with its own spatiotemporal features (weekly, same room, same participants) that sought to coordinate activities for the five separate design package milestones. This involved the contractors supply chain as well as the clients engineering team; In the contracting routine, we developed the 'tracker' as a tool for managing the Stage Two Works Commencement Notice and how this informed the Bank Board and the external assurance reviewers from the client organisation that the contractor and the client team were managing the contractual obligations between the parties; In the constructing routine, these were more formal artefacts such as applying for consents and in the consenting routine, we developed stakeholder newsletters, both of which provided a wider structural connection to those organisations external to the contract between the client and contractor.

These *perceptions of the causal relations'* were therefore spatially and temporally relative to the 'dialogical action' between the project participants (Holquist, 2002; Emirbyer and Mische, 1998; Shotter, 2008) based on the availability of information within the constraints of clock time, the boundaries of the organisation that were embedded in project artefacts and the cognitive abilities of the project actors, as individuals and as a group, to interpret their ongoing actions by reflecting on the past and envisioning the future (Orlikowski and Yates, 2002; Rescher, 1996; Emirbyer and Mische, 1998).

These spatiotemporal interpretations embedded in dialogic action draw attention to the nature of the temporal boundary established within the life cycle model, which has been drawn predominantly from a hard paradigm of project management research (Pollack, 2007). Temporally bracketing and visually mapping the incidents (Van de ven, 2007;

Langley, 1999) associated with the breakdowns and rituals within the practical events, there emerged a common pattern of recognisable and repeatable interdependent action by the senior management team, within and between the six routines (Feldman and Pentland, 2003). From this 'patterning of dialogical action' I was able to identify a five stage **'recursive process model of transitioning'** made up of: 1) realising; 2) informing and assuming; 3) turning and preparing; 4) validating, and; 5) enacting. This recursive model provides, from a 'process ontology' and 'practice theory' perspective (Sergi, 2012; Blomquist et al., 2010), an 'alternative image' of the ubiquitous deterministic life cycle model (Winter et, al., 2006).

This process model also contributes to the literature on transitions in regards to 'turning points' by showing both the emergent 'felt' transition and predefined 'formal' transition as being two separate dates (Gersick, 1998; Abbott, 2001). By using the method of temporal bracketing (Langley, 1999) alongside transition rituals (van den Ende and van Marrewijk, 2014) to identify the boundaries of the abstract event stages within the recursive model, I would argue here that this exposes the limitations of the life cycle from a hard paradigm perspective (Pollack, 2007).

As discussed in section 3.4, a process ontology highlights the ongoing nature of temporary organising and the findings presented in Chapter Six show that ex post bracketing of incidents and events enables us to see that the ex-ante fixed date for transition is only a partial representation of the actuality of managing through a life cycle. Lundin and Söderholm (1995) talk of the left and the right bracket, but they also talk of 'bracketing', yet the dominant hard paradigm of project management and its resultant bodies of knowledge suggest that these brackets remain fixed in time and imply or prescribe the misconception that stage gates involve a linear process (Winch, 2010; Cooper, 2008). This study has shown that this bracketing is a dynamic activity undertaken in the flow of time and is situated in the ongoing dialogue of the participants and is supported by the practice theory perspective on time, which sees time as being conceived of both objective clock time and the subjective perception of the timing of incidents from the project participants. (Orlikowski and Yates, 2002).

As with Winter et, al. (2006), this is not to reject the codified knowledge of the project life cycle, nor to reject the concept of their being an etic routine perspective for gating the process of transition (Winch, 2010). But it suggests that taking a practice perspective of organisational routines (Howard-Grenville and Parmigianni, 2011) in temporary organisations, it offers the potential to see how practitioners blend together the constraints of the embedded clock time within their formal plans, with the emerging exogenous and endogenous change that informs their *perceptions of the causal*

relations' to achieve the transition (Lundin and Söderholm, 1995; Orlikowski and Yates, 2002).

When these perceptions of causal relations are seen as being formed through dialogic action, it is suggested here that this gives emphasis to the importance of understanding the fundamental but opposing forces of the 'relational' and 'transactional' difficulties of organising in projects. It is through the relationality of dialogic action in organisational routines – meaning the creation of repeatable and recognisable patterns of interdependent action - that reduces the organisational uncertainty arising from these two difficulties (Söderlund, 2012; Feldman and Pentland, 2003; Lundin and Söderholm, 1995).

In summary, my research suggests that the theoretical contribution to the knowledge of construction project management is that while the life cycle stages provide a spatiotemporal structure to temporary organisations at a 'capability' level and hence a perception of stability, we can see that through the 'practice' level perspective of organisational routines (Parmigianni and Howard-Grenville, 2011) that it is the participants' perceptions, developed in dialogic action and set down in emergent artefacts that creates sufficient recognisability between the two distinct spatiotemporal stages and that this process itself has a pattern at a level of abstraction below that of the traditional life cycle model. At this level of abstraction, we can see the fragility and uncertainty of the transition (Miller and Hobbs, 2005; Jones and Lichtenstein, 2008; Soderlund, 2012), and the generative mechanisms (re)creating patterns of action at the intersection of newness and repetition. In this view, newness and repetition are not seen as mutually exclusive dualisms, but mutually inclusive dualities necessary for understanding patterning in temporary organisations (Lundin and Söderholm, 2003; Feldman and Pentland, 2003).

7.4   Contribution to routine dynamics

It is this spatio-temporal, '*dialogic action*' that I suggest provides *my secondary contribution* to the knowledge of organisational routine dynamics, that of the chronotope and its categorical structure.

In my '*recursive process model of transitioning*', we can observe the patterning of action through participants' 'effortful' and 'emergent' accomplishments (Pentland and Reuter, 1994; Feldman, 2000) in coping with the mutually constituted nature of newness and repetition, through adapting their routines that produces both stability and change within the temporary organisation as it moves towards, and then beyond, the predefined termination. But the theoretical shift to examining the internal generative nature of organisational routines and their role in both stability and change in organisations

(Feldman and Pentland, 2003; Parmigianni and Howard-Grenville, 2011) has moved the centre of analysis away from routines as things and towards patterns of situated action within and between routines (Feldman, et, al., 2016; Feldman, 2016). Feldman (2016) suggested that one of the key features of action in routines is that of relationality, where action is not the fundamental foundation of the routine but a way of examining relations between physical and behavioural phenomena (2016:37). Simpson and Lorino (2016) drew on pragmatist thinking and pushed this discussion further by challenging the ontological basis of routine dynamics by proposing a stronger focus on the performative aspect of the routine.

From a review of the concept of 'transition' in a theory of the temporary organisation (Lundin and Söderholm, 1995), I suggested 'dialogic action' as the unit of analysis as I had established the ontological position of 'incompleteness' (Rescher, 1996), as being relative to the spatial and temporal nature of the dialogical inquiry between project participants (Hernes, 2014; Emirbyer and Mische, 1998; Holquist, 2002; Shotter, 2008; Cunliffe, et, al., 2014; Lorino and Tricard, 2012).

It is here that I adopted the work of Lorino and Tricard (2012) and their use of the chronotope as a method for analysing the categorical structure of the dialogical inquiry between the multiple participants. The categorical structure of the chronotope as developed by Lorino and Tricard (2012) allows for a finer grained analysis of the 'patterning of action' and therefore the relationality of actions within and between the organisational routines that made up the transition. Lorino and Tricard (2012) had applied this to the process of construction organising, and so was appropriate for the observation of a transition between life cycle stages in a construction project, especially where the constraints of an autoethnography limit the observation of action elsewhere in the organisation (Pink et, al., 2013; Marshal and Bresnen, 2013).

I identified in the first part of the theoretical framework the organising difficulties of transactional and relational uncertainty in the construction organising process (Mintzberg, 1979; Söderlund, 2012; Jones and Lichtenstein; 2008). The organising routine sought to manage these necessary, but conflicting aspects of organising by adapting its management protocol more specifically to the impending construction stage. However, as the routines literature suggests in respect of agency and artefacts in routines discussed in section 3.5 in the theoretical framework, no new situation is ever the same (Emirbyer and Mische, 1998; Knudsen, 2008) and these artefacts are incomplete in their transfer across spatiotemporal boundaries (Becker, 2004). But the chronotope categories allow us to see how dialogic action leads to choices made against given structures and, importantly, the relationship with beliefs and values built from past experiences (Emirbyer and Mische, 1998).

For example, the 'meaning making' category of the chronotope structure (Lorino and Tricard, 2012) allows us to see how corporate governance structures and contract structures through routine artefacts (Feldman and Pentland, 2003; D'Adderio, 2010) influence the dialogue, while within the same routine dialogic action, the 'values' category allows us to see how the values built within the organisation during the previous life cycle stage are used to balance the incompleteness in information, they help facilitate understanding the 'not yet said' (Emirbyer and Mische, 1998; Shotter, 2008). For example, in the consenting routine and as discussed with evidence in AE5 above, where the newness of the task of enacting the conditions of the TWAO created uncertainty between existing and new participants, specifically those enacting the constructing routine, this led the team to draw on the values they had established in prior performances in communicating with stakeholders, that of consistency in approach. The additional categories of the dialogic structure further help understand the perceptions of causal relations between these two categories, such as the planned but emergent date of being granted the TWAO in December 2015 and the development of the new artefact to transfer knowledge across the spatiotemporal boundary.

I would like to suggest that this finer grained categorical analysis of action as dialogical in nature provides greater breadth and depth to the different (and same) patterns that routines exhibit and in turn, this allows for a much closer focus on the 'mutually constituted' nature of routines and the relationality of action (Feldman, 2016). As Feldman et, al. (2016) state "the relationality of mutual constitution is a core theoretical underpinning of routine dynamics" (2016:511) and these different categories of the chronotope, not as fundamental elements of action, but as fluid phenomena, enable greater understanding of the relations in patterning (Feldman, 2016:37) and subsequently can help in developing the understanding of the spatiotemporal nature of relations within and between routines (Howard-Grenville and Rerup, 2017). I return here to the issue I raised in section 7.3 above with regards to the unique nature of tasks in temporary organising and the relationship with incidents that fit into a routine but not necessarily constituted by it. I return to the ontological position of this study where in section 3.2.2 I highlighted the limitations of our cognitive abilities (Rescher, 1996), and suggest that utterances within incidents that do not fit within the original constitution of the routines are a natural part of routine enactment as these incidents are the emergence of incomplete information, in the flow if time and fit with a practice perspective of task complexity (Hærem at al., 2015) and the inter-organisational nature of construction project organising (Sydow and Braun, 2018); Jones and Lichtenstein, 2008).

It can be challenging to clearly identify in the data the boundary between those incidents (and hence utterances) that are associated with the routine and those that are not, hence the additional step within the method in this study to identify a practical event associated

with the goal of the routine. To help understand this further theoretically, I return to the temporal paradox in temporary organising – newness v's repetition. In both section 3.4 and 3.5 I highlighted how newness (both leaving and joining the project) can influence both the ostensive and performative aspects of the routine (Rerup and Feldman, 2016; Bechky, 2006). While from a hard scientific paradigm participants may bring with them and enact these aspects of the routine, the contextual significance of the inter-organisational arrangement (Jones and Lichtenstein, 2008; Sydow and Braun, 2018) set out in this case study suggests that the enactment of tasks are better understood from a practice perspective (Hærem et al., 2015).

The findings presented in Chapter Six show how through dialogic action, participants structure their utterances in a way that seeks to provide the bridge between what is espoused as the schema for achieving closure of the practical event (and to plan for the sequential event), while at the same time these utterances are the performance of the routine by the individual participants themselves. Something that accords with a more pragmatist bias to understanding routine dynamics (Simpson and Lorino, 2016). But these individual utterances themselves do not bring closure and in themselves, at the level of analysis in this study, do not constitute a repeatable and recognisable pattern of action. They are a step in the dynamic process of task accomplishment by multiple participants (Haerem et al., 2015) and achieve closure as participants' utterances are structured in response to what has come before, and what has not yet been said, which is a result of their perceptions of causal relations between the espoused schema of the routine and their interpretation of incidents on the ground (Hærem et al., 2015; Lundin and Söderholm, 1995; Shotter, 2008; Lorino and Tricard, 2012).

This view of the (re)creation of routines through the utterances of the participants and temporally bracketing incidents (as discussed in section 7.3 above) I would argue provides the foundation for the development of my 'recursive process model of transitioning' and fits with the multi-level analysis of routines research (Salvato and Rerup, 2010).

These relations have already been identified as narrative networks (Pentland and Feldman, 2008) within the routines literature and as discussed in Chapter Three, informal networks of information exchange, constituting action, have been identified as ways in which we can better understand the self-organising way that organisations cope with incomplete information in seeking to reduce uncertainty and manage interdependence (Pryke, 2017) and this could be an area for further study that will discussed in the following chapter.

7.5 Answering the research question

Following the discussion of the findings and the proposed contributions to knowledge, I propose a response to the research question: 'how' are 'patterns of action' (routines) (re)created in temporary organisations?

The BSCU project had a life cycle model, with predetermined time boundaries to its life cycle stages that encompassed a business rhythm imported from the permanent client organisation. These time boundaries influenced the patterns of action by the participants (Lundin and Söderholm, 1995; Jacobsson et, al., 2013). There is no reason to suggest from this study that such a model should be rejected (Winter et, al., 2006). However the evidence suggests that it was the interpretation of these clock time boundaries, relative to the availability of information and the interpretation of formal governance structures (artefacts – i.e. contract clauses), and planned and emergent transition rituals (van den Ende and van Marrewijk, 2014) that gave these time boundaries their meaning in the ongoing present flow of time, not just the historic meaning given to them, but emergent meaning as well (Orlikowski and Yates, 2002; Shotter, 2008)

These time boundaries were also geographically spatial in nature with the predominant focus moving from the design and project management office, to the two construction worksites and project management office. This was a factor in the goal of the constructing routines by the participants, with the ostensive to performative aspect of the routine being influenced by the structure of the participants' dialogic action (Feldman and Pentland, 2003; Lorino and Tricard, 2012). This gives importance to not just the temporal influences, but to the situated nature of the time boundaries (Hernes, 2014; Lundin and Steinthórsson, 2003; Emirbyer and Mische, 1998; Rescher, 1996).

The study looked at the contractual and governance relationship between the client and the contractor, through the senior management team and the evidence presented in Chapter Six shows that the (re)creation of patterns was a balancing act between the perceptions of causal relations of these participants, so giving some sense of primacy to 'agency' (Lundin and Söderholm, 1995; Emirbyer and Mische, 1998; Feldman and Pentland, 2003; Howard-Grenville, 2005). This balancing act was relative to their shared history, the structural determinants of the contract, the resulting types of dialogue that they shared in management meetings and the changing roles that the individuals were going through personally. Such a conception aligns with the co-created nature of knowledge in the flow of time (Emirbyer and Mische, 1998; Cook and Brown; 1999) and through the categories of their 'dialogic action' as understood through the work of Bakhtin (Lorino and Tricard, 2012; Cunliffe et, al., 2014; Shotter, 2008; Holquist, 2002).

From the perspective of artefacts within organisational routines, the relationship on the project had been structured some three years prior to this study taking place, in the target cost contract, the corporate governance systems and the management protocol discussed in Chapter One. These structures and the resulting spatiotemporal arrangement have been understood in this study as relative to the organising problems of 'cooperation' and 'coordination' (Soderlund, 2012; Jones and Lichtenstein, 2008) and the concern that the move from the definition stage to the delivery stage of a project is a fragile and uncertain stage in the project's evolution through its life cycle, despite organisations such as LU developing routines for stage gate transitions (Winch, 2010; Pryke, 2017; Morris, 2013; Miller and Lessard, 2001; Miller and Hobbs, 2005).

From the perspective of organisational routines this was understood as organisational capabilities (Brady and Davies, 2004; Davies and Brady, 2016; Zerjav, 2018). In addition to the discussion in the previous paragraph in terms of actors and (re)creating patterns, the evidence in Chapter Six shows that the artefact aspect of adapting capabilities lay in incorporating gaps of knowledge (incomplete information and uncertainty) in creating new or adapting existing artefacts that were not originally planned as a part of the transition but supported the evolving structure of the relationship. This is not to suggest that these artefacts (structures) were temporary, but that their creation or adaptation was part of creating what Rescher (1996) called the 'structure of spatiotemporal continuity' and accords with the incomplete transfer of knowledge and information across spatiotemporal boundaries within organisational routines (Hodgson; 2008; Knudsen, 2008; Becker, 2004).

From this synopsis of the 'transition chronotope' of the six organisational routines in a temporary organisation (presented in Chapter Six), the following response to the research question is proposed:

"Delimiting time orients 'dialogical action' towards collective perceptions of the 'necessary incompleteness' of information in the transfer of 'organisational capability' (structure and agency) across spatial and temporal boundaries, creating a 'recursive process model of transitioning'"

As an abductive inquiry seeking to conceive new theory (Van de Ven, 2007; Lorino and Tricard, 2012), from the above synopsis and the proposed response to the research question, in seeking to understand alternative images to the deterministic life cycle and considering the role of organisational routines, and their (re)creation over time, in temporary organisations, I would like to propose the following hypothesis:

"Delimited spatiotemporal boundaries create inherently unstable temporary organisations, needing time for participants to (re)create recognisable 'patterns of action', in order to become capable".

7.6 Summary

This Chapter summarised the organisational phenomenon, theoretical challenge and the research question before going on to present what I consider to be my two contributions to knowledge. Firstly, I suggested that my 'recursive process model of transition' offered an alternative perspective of the deterministic life cycle model by presenting a five stages of transition between two separate life cycle stages. Secondly, I suggested that from the perspective of routine dynamics, the categorical structure of the chronotope was a way of being able to understand the relationality of dialogic action within and between organisational routines.

I closed the chapter by proposing a response to the research question and generating a hypothesis for the generation of new theory through an understanding of the 'recursive process model of transition'. In the following final chapter, I will summarise this thesis, discuss its limitations and propose areas for future research.

8   Chapter Eight - Research summary and future research

8.1   Introduction

This final chapter summarises the thesis by highlighting the main theme of this study, the theoretical framework and methodology I used to empirically explore this theme, the findings and process model derived from them and the contribution to knowledge presented in Chapter Seven.

Following this summary, I will then describe the limitations of this research and the opportunities for future research.

8.2   Research summary

The main theme of this study has been to explore the ubiquitous life cycle model of temporary organisations (Morris, 2013; Söderlund, 2012) within large, or mega, construction project organisations (Jones and Lichtenstein, 2008; Miller and Lessard, 2001; Flyvbjerg, 2014; Davies et, al., 2017), through the theoretical lens of temporary organisations (Lundin and Söderholm, 1995) organisational routines (Feldman and Pentland, 2003). The intent was not to reject such a model, but to explore alternative images so as to enhance our knowledge of actual practices beyond such a deterministic structure (Winter et, al., 2006)

Founded on my experience of the organisational phenomenon of managing construction project organisations across life cycle stage boundaries with incomplete information, the study took the basic concept of '*transition'* from Lundin and Söderholm's (1995) 'A theory of the temporary organisation' and coupled this with Feldman and Pentland's (2003) 'new theory of organisational routines'. This was based on the theoretical understanding that construction project organisations are said to develop 'organisational routines' at their front end (Eriksson, 2015), for reviewing progress in information processing at the stage gate boundaries (Winch, 2010; Pryke, 2017), are adapted for project specific capabilities through the life of the project (Stinchcombe and Heimer, 1985; Ahola and Davies, 2012; Davies and Brady, 2016; Zerjav, 2018) and create a relationship between the temporary and the permanent organisation (Sydow, et, al., 2004; Manning, 2008; Jacobsson, et, al., 2013)

The study presented a challenge to the underlying temporal assumptions of these two theories, in that there was a temporal paradox of newness and repetition, where the temporary organisation is assumed to be created 'anew' each time, while organisational routines assume that the organisation '*already exists*' in the '*ongoing present*' and its capability is based on the ongoing (re)creation of routines. Central to both theories is the

concept of action, and this was developed as the central unit of analysis within the concept of transition.

This centrality of action within the temporal paradox was explored ontologically and understood from a process perspective as being within a '*structure of spatiotemporal continuity',* where our knowledge of the real recognises the incompleteness of information in our ongoing experiences of the world (Rescher, 1996). Such an ontological understanding sees the process of organising then, as the outcome of change and concepts of time and situated action as being central to understanding the organising process (Tsoukas and Chia, 2002; Hernes, 2014; Orlikowski and Yates, 2002).

Exploring action as cognitively incomplete within an ongoing spatiotemporal structure, the study created an onto-epistemological frame for understanding this action as being dialogical in nature. This moves action towards being understood as unfolding within the dialogue between social actors in a given situation, in the flow of time (Emirbyer and Mische, 1998). This dialogue becomes the place in the organising process where the ongoingness of incompleteness is accorded values and meaning, in the utterances between the parties to the organising process (Holquist, 2002; Shotter, 2008). The study presented the chronotope as way of categorising the spatiotemporal structure of this dialogue (Bakhtin, 1981; Lorino and Tricard, 2012)

This onto-epistemological understanding of action was then applied to Lundin and Söderholm's (1995) 'A theory of the temporary organisation'. Taking the concept of 'transition' as being a liminal space characterised by rituals (Söderlund and Borg, 2017; van den Ende and van Marrewijk, 2014) and a recognisable shift in relatively stable spatiotemporal trajectories (Abbott, 2001; Gersick, 1988), the study looked at its central role in understanding the relationship between the temporary and the permanent organisation (Bakker, 2010; Jacobsson, 2013). It focused on the sequencing concepts developed by Lundin and Söderholm (1995) and the second meaning of transition as being the perception of causal relations by the project participants and building on the onto-epistemological position of the study, arrived at 'dialogic action' as being the unit of analysis.

When applied to organisational routines as being understood as evolutionary in nature and incomplete in their transfer across spatiotemporal boundaries (Nelson and Winter, 1982; Knudsen, 2008; Becker, 2004), this dialogic action was theoretically framed within the practice perspective of routines (Howard-Grenville and Parmigianni, 2011). The framework focused on Feldman and Pentland's (2003) 'new theory of organisational routines' which sees action as relative to the agentic performances within routines and their structural artefacts (Emirbyer and Mische, 1998; Howard-Grenville, 2005;

D'Adderio, 2010; Cacciatori, 2008). It is in this generative cycle of routine performances that actors manage the incompleteness of information, and so over time generate perceptions of stability and change and it is here that the theoretical framework connected the two literatures in respect of the perceptions of causal relations between actors as being encountered in situated dialogic action, in the flow of time.

The framework then looked at more recent literature in routines theory that sought to further explore the relationality of action within and between routines (Feldman, 2016; Feldman, et, al., 2016; Dionysou and Tsoukas, 2013; Jarzabkowski, et, al., 2012) and returned to the chronotopic categories of dialogue by Lorino and Tricard (2012) as a tool for exploring this relationality with 'dialogic action' as the unit of analysis.

From this framework, the following research question was developed: *'How' are 'patterns of action' (re)created in temporary organisations?*

To explore the phenomena of transitioning with incomplete information in a temporary organisation and to seek to answer the research question, I undertook an organisational-auto-ethnographic (Hayano, 1979; Anderson, 2006; Doloriert and Sambrook, 2012; Boyle and Parry, 2007), abductive inquiry (Lorino and Tricard, 2012; Van de Ven, 2007; Locke et, al., 2008; Van Maanen et, al., 2007) using a single case study, the BSCU project, that was described in Chapter One (Yin, 2014; Eisenhardt and Graebner, 2007). Although an autoethnography, the case study espoused the management of projects paradigm (Morris, 1997) and was innovative in the practices it had sought to implement (Davies and Brady, 2016). I drew on the work of Van de Ven (2007) and others as a guide for the collection, analysis and writing of process data (van Maanen, 1979; Langley, 1999; Pentland, 1999; Jarzabkowski et, al., 2014; Cunliffe, et al, 2014:345-6).

The analysis identified six transition routines: 1) organising; 2) governing; 3) contracting; 4) designing; 5) constructing; and 6) consenting. I used a decision rule to identify a specific practical event and incidents associated with each routine. I identified a total of two hundred and seventy-seven incidents that had a qualitative datum associated with them (Appendix D) and so I was therefore able to temporally map these across the 53 week period of data collection. This produced my five stage 'recursive process model of transitioning': 1) realising; 2) informing and assuming; 3) turning and preparing; 4) validating; 5) enacting.

This recursive process model of transition was suggested to offer an alternative image of the life cycle model (Winter, et, al., 2006) at a level of abstraction below the prescriptive routine of gating the process (Winch, 2010), highlighting the generative nature of routines from a 'practice perspective' (Howard-Grenville and Parmigianni,

2011; Feldman and Pentland, 2003). The underlying generative mechanisms were suggested to have come about through the 'dialogic action' of the project participants in their effortful and emergent accomplishments (Feldman et, al., 2016; Pentland and Reuter, 1994) to achieve the goals of the transition routines, through their perceptions of the causal relationships that were identified within the dialogical categories of the chronotope of each routine (Lundin and Söderholm, 1995; Jacobsson et, al., 2013; Lorino and Tricard, 2012).

The analysis of the transition routines and the stages of the 'recursive model of transitioning' in Chapter Six showed how delimiting time influenced these perceptions of causal relationships as the participants sought to process information to a level of sufficient completeness, or necessary incompleteness (Rescher, 1996; Emirbyer and Mische, 1998; Knudsen, 2008) so as to gain formal sanction to move to the next stage (Miller and Lessard, 2001; Miller and Hobbs, 2005). Routine artefacts, existing and new, were (re)created through the process of change, acting as carriers of (in)complete information (Becker, 2004) and orienting dialogic action towards the transition routine goals (Feldman and Pentland, 2003) and so reducing the transactional and relational uncertainties brought by the impending newness (and incompleteness) of the next stage in the life cycle (Söderlund, 2012; Jones and Lichtenstein, 2008; Pryke, 2017).

Through the identification and analysis of the transition routines and the recursive process model of transition, it is proposed that the study contributes to the knowledge of delimited time in temporary organising (Lundin and Söderholm, 1995) through its influence on the patterning of action in organisational routines (Feldman and Pentland, 2003). It does this through understanding the perceptions of causal relations between project participants as being the relationality within, and between, categories of situated dialogic action in the flow of time (Emirbyer and Mische, 1998; Jacobsson, et, al., 2013; Lorino and Tricard, 2012).

The study suggests that a spatiotemporal paradox exists in (re)creating organisational routines in temporary organising, where the underlying temporal assumptions of newness and repetition coexist in a mutually inclusive duality that influences the 'timing' of the adaptation of project capabilities (Davies and Brady, 2016; Zerjav, 2018)

As presented in Chapter Seven above, this suggests that the answer to the research question can be presented as:

"Delimiting time orients 'dialogical action' towards collective perceptions of the necessary incompleteness' of information in the transfer of 'organisational capability'

(structure and agency) across spatial and temporal boundaries, creating a 'recursive model of transitioning'"

Suggesting this response to the research question, and as an abductive inquiry seeking to conceive new theory (Van de Ven, 2007; Lorino and Tricard, 2012), the following hypothesis was proposed:

"Delimited space-time boundaries create inherently unstable temporary organisations, needing time for participants to (re)create recognisable 'patterns of action' to become capable"

This section has summarised this study, from the organising phenomena, through its theoretical framework and methodology into the findings and the response to the research question and its supporting hypothesis. In the following section, I will present what I perceive to be limitations to the study and opportunities for future research.

8.3   Limitations and future research

8.3.1   Introduction

This section will combine what I perceive to be the limitations of this study and opportunities for future research.

8.3.2   Limitations and future research

Firstly, this was an autoethnographic study of a single case study and a single life cycle stage transition. While I believe it has demonstrated a valid piece of doctoral research and contribution to knowledge, the generalisability of its findings may be limited (Langley, 1999), but I would like to argue that this type of study is aligned with current thinking in both project management research and organisational routine dynamics (Geraldi and Söderlund, 2018; Feldman, 2016; Simpson and Lorino, 2016) and so the recursive model and typology of routines identified here, could be applied and tested in other cases.

As both the researcher and project manager, my ability to follow the 'action' within organisational routines beyond the sphere of action I was accountable for was limited. This limited the overall breadth and depth of action observed within the individual routines. Future developments of this research methodology could consider how ethnographic data is collected beyond the researcher, for example, perhaps other participants would be willing to maintain ethnographic diaries to collect observed actions outside of the collective dialogue in the meeting, which could enable a more ground up perspective on routine (re)creation, especially with respect to 'newness' of participants. This offers an opportunity to explore, from a pragmatist perspective, the habitual aspects of routine performance (Simpson and Lorino, 2016; Lorino, 2018). Careful consideration would need to be given to the design boundaries of such data collection. In addition, during the analysis of data, I found the solitary collection of data in an autoethnography and my proximity to it as a constraining factor in being able to see through some of the emerging themes. Consideration could therefore be given to how the analysis of autoethnographic data could also be a collective activity.

Secondly, I suggest that the empirical findings and analysis are specific and accurate enough, and sufficiently generalisable that my 'recursive process model of transitioning' could be applied to other stages of a project life cycle. With temporary organising becoming more prevalent in society (Lundin et, al., 2015), the recent reawakening of the concept of liminality in management and organisation studies (van den Ende and van Marrewijk, 2014; Söderlund and Borg, 2017), and infrastructure projects involving what have been described as multiple temporalities (Brookes et, al., 2017), then

understanding more of the spatiotemporal nature of transitions could be argued to be beneficial for the study of both temporary and mainstream organisations.

In this light, to develop the model further and support such a research agenda, future research could take the six identified routines and the recursive process model of transitioning and apply the five abstract event sequences to different stages of a project's life cycle. For example, I highlighted in Chapters One and Two the type of procurement model used on the BSCU project in 2012/13 and the relational and transactional uncertainties inherent in the construction organising process. The five abstract event sequences could be mapped to the different stages of the activity of procurement: preparing and issuing tendering documentation (AE1); contractor bidding and pricing (AE2); Evaluation and due diligence (AE3); Formal sanction and tender ward (AE4); Commence contract (AE5).

If we were to apply the knowledge that this is a recursive model, and as I presented in Chapter Six, the relationship between different event sequences, for example 'temporary breakdowns' (AE1), occurring in enacting new patterns (AE5), and in enacting new practices (AE5) the information and assumptions (AE2) were used to maintain expectations, and we used the chronotope to understand the dialogical action between the participants, we may be able to better understand the relational and transactional uncertainties (Soderlund, 2012; Jones and Lichtenstein, 2008) and so build the early patterns of action and the resulting capability of the temporary organisation (Davies and Brady, 2016) within the activity of procurement itself and across other life cycle transitions where it has been shown that routines are adapted (Zerjav et, al., 2018).

It could be argued that to explore this further theoretically, may go some way to supporting efforts in industry to develop new operating models, such as those discussed in Chapter Two, i.e. Project 13, but through a different method for the identification of routines. While this study followed an emic perspective as a first step, applying the recursive model and avoiding ex-ante coding of the routines (which I effectively did in the first phase interviews, even though from an emic not etic perspective) it may be possible, when considering the unique nature of the incidents and greater analysis of the individual utterances within incidents, that different routines emerge that offer an even greater granularity of analysis. In the same way that Pryke (2017) has used social network analysis to identify self-organising, such an approach may identify different routines to those identified in this study that could be argued, which even though taken from an emic perspective, align comfortably with a prescriptive notion of construction project management organising (Winch, 2010; Morris, 2013)

Thirdly, in the phase one interviews I asked a structured question of the participants as to what extent they considered the tasks they were undertaking were unique or that they had done them before. I did not ask this in the phase two interviews, but I did again in most of the phase three interviews. I have used the resulting data only as a 'contextual' understanding of the perception of the participants. In writing up the findings and going back over the theory, I feel this is a missed opportunity with regards to the understanding of this task paradox of organisational routines in temporary organisation, especially with respect to its importance in understanding task complexity and organisational capability (Hærem et al., 2015; Brady and Davies, 2004; Davies and Brady, 2016), as it was apparent, as discussed above, that some incidents and their associated utterances were a result of the unique nature of temporary organising and not from the prescriptive patterns established in the contracting or governance systems, hence forming the recognisability of the routine over time.

In response to the question, participants often found it difficult to understand the routine/unique question, as I had not provided a clear definition of the two terms. Anecdotally, in the third interviews, just the other side of formal transition, participants generally suggested that they were undertaking tasks they hadn't done before, but it was difficult to differentiate if they meant the specific tasks for the role or the wider project situation (including values and beliefs). Future research looking at organisational routines in temporary organisations could provide a clearer definition to participants and be specific in the collection of this data, to help contribute to the knowledge of routine and non-routine work in temporary organisations (Obstfeld, 2012).

Fourthly, the chronotope was a useful tool to analyse the categories of the dialogic action within and between the organisational routines. Its use arrived late in the study and on reflection, I feel therefore that perhaps my understanding of it has not developed to the extent that it could. For example, the spatial frame could be extended much further in its definition as I had limited it to the geographical location of the project (Maaninen-Olsson and Müllern, 2009).

In looking at the second definition of transition - the 'perception of causal relations' - this enabled me to develop my understanding of action as being dialogical from the perspective of the relativity of space and time as understood in dialogism (Holquist, 2002). Future research could therefore concentrate on developing a taxonomy of the dialogical categories of the chronotope for different typologies of projects. This could help build a picture of patterns of dialogical action across different life cycle stages, this could be both synchronic and diachronic.

Fifth, in section 3.2.1, having highlighted the relationship between the suggested practical difficulties of relationships and transactions in construction with the theoretical difficulties of cooperation and coordination in projects, the study suggested that organisational routines were a way of reducing what could be called pervasive uncertainty (Becker and Knudsen, 2005) and balancing conflicting organisational goals (Salvato and Rerup, 2018). Although the study explored the dialogical nature of understanding these organisational difficulties, it did not draw more specifically on these two pieces of literature. With the organisational routines literature having been argued to fall predominantly in the capabilities perspective (Davies and Brady, 2016; Howard-Grenville and Parmigianni, 2011), future research on temporary organisations may benefit from an orientation more towards a practice perspective that focuses on the categories of dialogic action and their explicit role in reducing pervasive uncertainty and balancing conflicting goals. This may be especially pertinent with the rise in digital technology in the construction industry (Whyte, 2013).

Finally, while the chronotope was argued to offer an opportunity to provide greater granularity of the relationality of action within and between organisational routines, this study perhaps missed the opportunity to fully understand the extent of the 'networked' nature of dialogic action, especially as this was identified as one of the mechanisms used to understand the extent of information exchange in temporary organisations (Pryke, 2017). Future research could look at how social network analysis as a quantitative tool can be used to identify the network of dialogic action within and between routines in organisations. The quantitative output could be supported through a qualitative analysis using the chronotope as a structure to capture the categories of dialogic action in that information exchange.

This would enable both the meaning making principles, i.e. information exchanged for contractual purposes to achieve tasks, along with the 'values' and norms of behaviour between organisational participants. This would need, as I highlighted earlier, a clearer taxonomy of the chronotope categories but would offer the opportunity to bring together the literature on social network analysis in project based organisations, with the literature on organisational routines, which has already started to explore routines as narrative networks (Pentland and Feldman, 2007).

8.4   Summary

In this final chapter, the first section summarised the key points made throughout this thesis and the resulting response to the research question. The second section presented six areas where I feel this study had limitations and where it offered opportunities for future research.

This chapter now brings this thesis and my 'incomplete' journey of discovery to a close.

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10 Appendix A – Interview data tables

Group	Ref No	Int 1	Int 2	Int 3	Total Int Time	Ave Int Time
G5	003	00:28:56	00:45:39	00:26:13	**01:40:48**	**00:33:36**
G5	006	00:51:03	01:17:42	00:00:00	**02:08:45**	**01:04:22**
G5	012	00:25:05	00:40:15	00:38:19	**01:43:39**	**00:34:33**
G5	014	00:20:24	00:38:28	00:41:46	**01:40:38**	**00:33:33**
G5	018	00:38:20	01:46:10	00:35:31	**03:00:01**	**01:00:00**
G5	020	00:35:07	00:48:48	00:45:14	**02:09:09**	**00:43:03**
G5	033	00:00:00	00:51:41	00:46:23	**01:38:04**	**00:49:02**
G5	034	00:00:00	00:00:00	00:38:42	**00:38:42**	**00:38:42**
		03:18:55	**06:48:43**	**04:32:08**	**14:39:46**	**00:44:36**
		00:33:09	**00:58:23**	**00:38:53**	**01:49:58**	

Group	Ref No	Int 1	Int 2	Int 3	Total Int Time	Ave Int Time
SMT	001	00:32:18	00:58:27	00:42:40	**02:13:25**	**00:44:28**
SMT	005	00:29:54	01:01:26	00:00:00	**01:31:20**	**00:45:40**
SMT	007	00:24:50	00:53:03	00:35:14	**01:53:07**	**00:37:42**
SMT	008	00:22:00	00:30:34	00:00:00	**00:52:34**	**00:26:17**
SMT	009	00:22:00	00:00:00	00:00:00	**00:22:00**	**00:22:00**
SMT	010	00:26:55	00:43:49	00:29:34	**01:40:18**	**00:33:26**
SMT	013	00:33:55	00:39:07	00:31:29	**01:44:31**	**00:34:50**
SMT	023	00:28:03	00:18:29	00:00:00	**00:46:32**	**00:23:16**
SMT	025	00:28:03	00:47:09	00:36:50	**01:52:02**	**00:37:21**
SMT	026	00:37:48	00:36:00	00:43:19	**01:57:07**	**00:39:02**
SMT	031	00:00:00	00:55:31	00:53:04	**01:48:35**	**00:54:18**
SMT	032	00:00:00	00:44:49	00:35:14	**01:20:03**	**00:40:02**
		04:45:46	**08:08:24**	**05:07:24**	**18:01:34**	**00:36:32**
		00:28:35	**00:44:24**	**00:38:25**	**01:30:08**	

Group	Ref No	Int 1	Int 2	Int 3	Total Int Time	Ave Int Time
BB	016	00:27:43	01:00:37	00:26:45	**01:55:05**	**00:38:22**
BB	017	00:36:09	00:53:03	00:00:00	**01:29:12**	**00:44:36**
BB	019	00:25:27	00:28:16	00:00:00	**00:53:43**	**00:26:51**
BB	021	00:35:36	01:27:28	00:23:55	**02:26:59**	**00:49:00**
BB	022	00:24:42	00:57:07	00:00:00	**01:21:49**	**00:40:55**
BB	024	00:25:31	00:34:39	00:25:36	**01:25:46**	**00:28:35**
		02:55:08	**05:21:10**	**01:16:16**	**09:32:34**	**00:38:03**
		00:29:11	**00:53:32**	**00:25:25**	**01:35:26**	

11 Appendix B – Meeting data tables

Accounting period	4			
Accounting week in period	1	2	3	4
Start/Finish Date	28/06/15 - 04/07/15	05/07/15 - 11/07/15	12/07/15 - 18/07/15	19/07/15 - 25/07/15
Research Week	1	2	3	4
Diary word count	0	0	2955	3361
G5 (Project Executive)	01:27:42	01:37:32	01:57:31	00:56:30
SMT (Period progress review)	01:53:18	02:02:12	00:00:00	00:00:00
Bank Board	00:00:00	00:00:00	00:00:00	00:00:00
Commercial Mtg	00:00:00	00:00:00	00:00:00	00:00:00
LU Exec	00:36:21	00:00:00	01:06:00	01:08:36
SMT 2	00:00:00	00:00:00	00:00:00	00:00:00
Ad Hoc	00:00:00	00:00:00	00:00:00	00:00:00
Weekly Totals	03:57:21	03:39:44	03:03:31	02:05:06
Period Totals				12:45:42
Average weekly				03:11:26

Accounting period	5			
Accounting week in period	1	2	3	4
Start/Finish Date	26/07/15 - 01/08/15	02/08/15 - 08/08/15	09/08/15 - 15/08/15	16/08/15 - 22/08/15
Research Week	5	6	7	8
Diary word count	2046	829	1383	0
G5 (Project Executive)	02:26:07	01:46:24	00:48:36	00:49:58
SMT (Period progress review)	00:00:00	02:14:01	00:00:00	00:00:00
Bank Board	00:00:00	00:00:00	00:00:00	00:00:00
Commercial Mtg	00:00:00	00:00:00	00:00:00	00:00:00
LU Exec	00:59:25	00:31:02	00:42:09	00:40:46
SMT 2	00:00:00	00:00:00	00:00:00	00:00:00
Ad Hoc	00:00:00	00:00:00	00:00:00	00:00:00
Weekly Totals	03:25:32	04:31:27	01:30:45	01:30:44
Period Totals				10:58:28
Average weekly				02:44:37

Accounting period	6			
Accounting week in period	1	2	3	4
Start/Finish Date	23/08/15-29/08/15	30/08/15-05/09/15	06/09/15-12/09/15	13/09/15-19/09/15
Research Week	9	10	11	12
Diary word count	0	1890	2741	2986
G5 (Project Executive)	00:00:00	00:54:24	01:10:41	03:41:12
SMT (Period progress meeting)	00:00:00	01:56:23	00:00:00	00:00:00
Bank Board	00:00:00	00:00:00	00:00:00	00:00:00
Commercial Mtg	00:00:00	00:00:00	00:00:00	00:00:00
LU Exec	00:00:00	00:00:00	00:34:12	02:01:18
SMT 2	00:00:00	00:00:00	00:00:00	01:54:23
Ad Hoc	00:00:00	00:00:00	00:00:00	00:00:00
Weekly Totals	00:00:00	02:50:47	01:44:53	07:36:53
Period Totals				12:12:33
Average weekly				03:03:08

Accounting period	7			
Accounting week in period	1	2	3	4
Start/Finish Date	20/09/15-26/09/15	27/09/15-03/10/15	04/10/15-10/10/15	11/10/15-17/10/15
Research Week	13	14	15	16
Diary word count	2330	2047	3471	2304
G5 (Project Executive)	01:23:41	01:58:53	02:04:08	01:27:31
SMT (Period progress meeting)	00:00:00	01:50:38	00:00:00	00:00:00
Bank Board	00:00:00	00:00:00	01:29:03	00:00:00
Commercial Mtg	00:00:00	00:00:00	00:00:00	00:00:00
LU Exec	01:30:12	01:04:11	00:57:15	00:39:56
SMT 2	00:00:00	00:00:00	00:00:00	00:00:00
Ad Hoc	00:00:00	00:00:00	00:00:00	00:00:00
Weekly Totals	02:53:53	04:53:42	04:30:26	02:07:27
Period Totals				14:25:28
Average weekly				03:36:22

Accounting period	8			
Accounting week in period	1	2	3	4
Start/Finish Date	18/10/15-24/10/15	25/10/15-31/10/15	01/11/15-07/11/15	08/11/15-14/11/15
Research Week	17	18	19	20
Diary word count	2057	1904	1925	4142
G5 (Project Executive)	01:22:45	01:58:53	01:25:28	01:20:50
SMT (Period progress meeting)	00:00:00	01:48:30	00:00:00	00:00:00
Bank Board	00:00:00	00:00:00	01:19:35	00:00:00
Commercial Mtg	00:00:00	00:00:00	00:00:00	00:00:00
LU Exec	00:42:40	00:41:37	00:35:55	00:33:00
SMT 2	00:00:00	00:00:00	00:00:00	00:52:27
Ad Hoc	00:00:00	00:00:00	00:00:00	00:00:00
Weekly Totals	02:05:25	04:29:00	03:20:58	02:46:17
Period Totals				12:41:40
Average weekly				03:10:25

Accounting period	9			
Accounting week in period	1	2	3	4
Start/Finish Date	15/11/15-21/11/15	22/11/15-28/11/15	29/11/15-05/12/15	06/12/15-12/12/15
Research Week	21	22	23	24
Diary word count	6057	3446	4347	2892
G5 (Project Executive)	00:00:00	01:14:05	00:00:00	01:15:38
SMT (Period progress review meeting)	00:00:00	02:35:30	00:00:00	00:00:00
Bank Board	00:00:00	00:00:00	00:00:00	00:00:00
Commercial Mtg	00:00:00	00:00:00	00:00:00	00:00:00
LU Exec	00:28:38	00:56:58	01:04:43	01:09:46
SMT 2	00:00:00	00:00:00	00:00:00	01:04:36
Ad Hoc	00:44:20	00:00:00	00:00:00	00:00:00
Weekly Totals	01:12:58	04:46:33	01:04:43	03:30:00
Period Totals				10:34:14
Average weekly				02:38:34

Accounting period	10			
Accounting week in period	1	2	3	4
Start/Finish Date	13/12/15-19/12/15	20/12/15-26/12/15	27/12/15-02/01/16	03/01/16-09/01/16
Research Week	25	26	27	28
Diary word count	4159	4098	0	5341
G5 (Project Executive)	00:54:29	00:00:00	00:00:00	02:31:15
SMT (Period progress review meeting)	00:00:00	00:00:00	00:00:00	00:00:00
Bank Board	00:00:00	00:00:00	00:00:00	00:00:00
Commercial Mtg	00:00:00	00:00:00	00:00:00	00:00:00
LU Exec	00:39:57	00:53:12	00:00:00	00:47:55
SMT 2	00:00:00	00:00:00	00:00:00	00:00:00
Ad Hoc	00:00:00	00:00:00	00:00:00	01:17:24
Weekly Totals	01:34:26	00:53:12	00:00:00	04:36:34
Period Totals				07:04:12
Average weekly				01:46:03

Accounting period	11			
Accounting week in period	1	2	3	4
Start/Finish Date	10/01/16-16/01/16	17/01/16-23/01/16	24/01/16-30/01/16	31/01/16-06/02/16
Research Week	29	30	31	32
Diary word count	4526	5576	6399	5900
G5 (Project Executive)	01:05:56	01:07:55	01:50:19	01:15:57
SMT (Period progress review meeting)	00:00:00	02:04:55	00:00:00	00:00:00
Bank Board	00:00:00	01:40:13	00:00:00	00:00:00
Commercial Mtg	00:00:00	00:00:00	00:00:00	00:00:00
LU Exec	00:46:37	00:45:04	01:15:42	00:00:00
SMT 2	00:39:18	00:00:00	00:00:00	00:00:00
Ad Hoc	00:54:53	00:00:00	00:00:00	00:00:00
Weekly Totals	03:26:44	05:38:07	03:06:01	01:15:57
Period Totals				13:26:49
Average weekly				03:21:42

Accounting period	12			
Accounting week in period	1	2	3	4
Start/Finish Date	07/02/16-13/02/16	14/02/16-20/02/16	21/02/16-27/02/16	28/02/16-05/03/16
Research Week	33	34	35	36
Diary word count	4058	5703	6095	2096
G5 (Project Executive)	01:52:09	01:07:05	00:00:00	01:01:58
SMT (Period progress meeting)	00:00:00	03:27:03	00:00:00	00:00:00
Bank Board	00:00:00	00:00:00	02:09:37	00:00:00
Commercial Mtg	00:00:00	00:00:00	01:20:18	00:00:00
LU Exec	00:46:25	01:54:01	01:09:37	00:56:26
SMT 2	00:00:00	00:00:00	00:00:00	00:00:00
Ad Hoc	01:47:29	00:00:00	00:00:00	00:00:00
Weekly Totals	04:26:03	06:28:09	04:39:32	01:58:24
Period Totals				17:32:08
Average weekly				04:23:02

Accounting period	13			
Accounting week in period	1	2	3	4
Start/Finish Date	06/03/16-12/13/16	13/03/16-19/03/16	20/03/16-26/03/16	27/03/16-31/03/16
Research Week	37	38	39	40
Diary word count	5070	6387	0	5075
G5 (Project Executive)	02:08:28	01:15:35	02:39:38	01:10:49
SMT (Period progress meeting)	00:00:00	01:53:12	00:00:00	00:00:00
Bank Board	00:00:00	00:00:00	00:00:00	00:00:00
Commercial Mtg	01:19:30	01:12:21	00:47:30	00:00:00
LU Exec	00:55:29	01:56:45	00:00:00	00:00:00
SMT 2	01:06:33	00:00:00	00:00:00	00:00:00
Ad Hoc	00:00:00	00:00:00	00:00:00	00:00:00
Weekly Totals	05:30:00	06:17:53	03:27:08	01:10:49
Period Totals				16:25:50
Average weekly				04:06:28

Accounting period	1			
Accounting week in period	1	2	3	4
Start/Finish Date	03/04/16-09/04/16	10/04/16-16/04/16	17/04/16-23/04/16	24/04/16-30/04/16
Research Week	41	42	43	44
Diary word count	5729	5995	5003	4193
G5 (Project Executive)	01:48:01	00:00:00	01:03:25	02:11:12
SMT (Period progress meeting)	00:00:00	02:03:41	00:00:00	00:00:00
Bank Board	00:00:00	01:25:06	00:00:00	00:00:00
Commercial Mtg	01:29:31	01:12:02	01:26:59	00:40:45
LU Exec	00:55:37	01:49:22	00:50:41	01:06:09
SMT 2	00:00:00	00:00:00	00:00:00	00:00:00
Ad Hoc	00:00:00	00:00:00	00:00:00	00:00:00
Weekly Totals	04:13:09	06:30:11	03:21:05	03:58:06
Period Totals				18:02:31
Average weekly				04:30:38

Accounting period	2			
Accounting week in period	1	2	3	4
Start/Finish Date	01/05/16-07/05/16	08/05/16-14/05/16	15/05/16-21/05/16	22/05/16-28/05/16
Research Week	45	46	47	48
Diary word count	3883	4181	2655	4170
G5 (Project Executive)	02:43:54	01:04:56	00:56:28	01:02:07
SMT (Period progress meeting)	00:00:00	01:59:47	00:00:00	00:00:00
Bank Board	00:00:00	00:00:00	00:00:00	00:00:00
Commercial Mtg	00:00:00	01:21:26	00:51:39	00:39:30
LU Exec	00:00:00	02:14:34	00:27:18	01:12:44
SMT 2	00:00:00	00:00:00	00:00:00	00:00:00
Ad Hoc	00:00:00	00:00:00	00:00:00	00:00:00
Weekly Totals	02:43:54	06:40:43	02:15:25	02:54:21
Period Totals				14:34:23
Average weekly				03:38:36

Accounting period	3			
Accounting week in period	1	2	3	4
Start/Finish Date	29/05/16-04/06/16	05/06/16-11/06/16	12/06/16-18/06/16	19/06/16-25/06/16
Research Week	49	50	51	52
Diary word count	2095	1968	2043	2367
G5 (Project Executive)	01:13:06	01:51:51	01:51:51	01:42:18
SMT (Period progress meeting)	00:00:00	02:28:21	00:00:00	00:00:00
Bank Board	00:00:00	00:00:00	01:31:33	00:00:00
Commercial Mtg	00:50:45	00:00:00	01:05:45	00:51:49
LU Exec	00:00:00	01:41:55	00:00:00	01:26:46
SMT 2	00:00:00	00:00:00	00:00:00	00:00:00
Ad Hoc	00:00:00	00:00:00	00:00:00	00:00:00
Weekly Totals	02:03:51	06:02:07	04:29:09	04:00:53
Period Totals				16:36:00
Average weekly				04:09:00

Accounting period	4
Accounting week in period	1
Start/Finish Date	26/06/16-02/07/16
Research Week	53
Diary word count	2189
G5 (Project Executive)	02:11:54
SMT (Period progress meeting)	00:00:00
Bank Board	00:00:00
Commercial Mtg	00:00:00
LU Exec	01:43:59
SMT 2	00:00:00
Ad Hoc	00:00:00
Weekly Totals	03:55:53
Period Totals	03:55:53
Average weekly	03:55:53

12 Appendix C – Interview schedule

Interview Phase	One							Two													One		Three				
Periods	4 to 8							9 to 12													13		3 to 4				
Research weeks	3 to 7							23 to 36													37 to 38		49 to 53				
I001	■							■																■			
I002	■									■														■			
I003		■																	■					■			
I004		■													■								■				
I005		■						■																			
I006			■									■															
I007			■								■																■
I008			■										■														
I009			■																								
I010			■						■																■		
I011			■							■													■				
I012			■							■													■				
I013			■									■											■				
I014			■												■								■				
I015			■									■													■		
I016				■								■													■		
I016				■								■													■		
I018				■														■									■
I019				■												■											
I020				■						■															■		
I021					■													■					■				
I022					■							■															
I023					■									■													
I024						■											■										■
I025						■							■										■				
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I031																					■				■		
I032																						■	■				
I033																						■	■	■			
I034																							■				

13 Appendix D – Incident data

Summary incident data – Total 278 Incidents

	Weeks 1 - 6	Weeks 6 - 22	Weeks 22 - 36	Weeks 36 - 42	Weeks 42 - 53
	Realising 40 Incidents	**Informing and Assuming 88 Incidents**	**Turning and Preparing 64 Incidents**	**Formally Validating 37 Incidents**	**Enacting 49 Incidents**
Organising routine	7 Incidents	16 Incidents	10 Incidents	6 Incidents	14 Incidents
Governing routine	8 Incidents	17 Incidents	10 Incidents	4 Incidents	2 Incidents
Contracting routine	4 Incidents	12 Incidents	9 Incidents	5 Incidents	3 Incidents
Designing routine	11 Incidents	11 Incidents	8 Incidents	11 Incidents	10 Incidents
Constructing routine	6 Incidents	9 Incidents	10 Incidents	3 Incidents	3 Incidents
Consenting routine	4 Incidents	23 Incidents	17 Incidents	8 Incidents	17 Incidents

Abstract Event - Stage 1 – Total 40 Incidents

Organising Routine – Stage 1 – 7 Incidents

No	Mtg	Wk	Page	Incident
1	G5	1	1-7	Summarise what happened at the 29/6 workshop… Discuss how we want to restructure, to slim the SMT organisation, discuss who fits what role; Focus on project controls and the PMO; Lots of discussion on how and when we do it, how we introduce it and the timing of that; Recognise the need to step back into our organisations – don't see that as a negative thing but a need to sort ourselves out; *"Look, Monday was good. I've calmed down now. Monday was good. Just we woke up and smelt the coffee, there's something wrong with this structure."*
2	G5	1	17-26	Follow on discussions around the restructure, getting into more detail and building on understanding as we talk together through the issues. More specific focus on PMO and how that looks different for client and contractor.
3	G5	1	28-32	More organisational discussion, focusing back on the historical ADT meeting structure which was in the original protocol but never really worked, discuss why it didn't work, decide to scrap it for now but hold onto the principle.
4	G5	2	1-3	Reflect on improvement in SMT with fewer people; Confirming new LU PMO structure; confirm getting things in place for the new SMT structure in four weeks-time.
5	G5	2	25-27	Discuss communication plan for next SMT with new structure as people already talking about it; Discuss the individual conversations and approvals we need to make the change around of people; confirm to ourselves we believe we are doing the right thing.

| 6 | SMT | 6 | 1-4 | Discuss new structure with new team, why we have done it; Not communicated all the way out as not everything in pace yet; Reflect on need to remain collaborative and cohesive; reference S2WCN and how we are one contract and need the stability to get through that; explain some of our reasoning to the team. |
| 7 | G5 | 6 | All | There is a lot in here about people and organisations such as comms, TWA, procurement etc, but its not specifically about the protocol so I have not included it here but can refer back to it if necessary in terms of people on the chronotope. |

Governing Routine – Stage 1 – 8 Incidents

No	Mtg	Wk	Page	Incident
1	G5	1	3-4	Discuss restructure of PMO and the role that it will play in helping to manage formal governance process within client
2	G5	1	12	Not wanting certain members to change current roles because their focus is on governance
3	SMT	2	6-7	Issue of bringing bull ring works forward has an impact on what we apply for regards to stage 2 funding
4	SMT	2	24-27	Moving to staged design compliance means we need to show a clear plan of action and that we are following that plan when external assurance (IIPAG and EE) come in for the TfL funding review); What this means for our internal project stage gate 4.
5	G5	2	24-25	Staged compliance itself is not an issue, but managing external expectations is; Need to demonstrate stability, especially requirements, when going for external funding despite splitting up the design; IIPAG have already been advised from review in June;
6	SMT	6	5-6	Discuss relationship between TfL Board date and S2WCN Date in terms of critical path planning, should be almost seen as one and the same day as S2WCN can't be issued before TfL Board date.
7	SMT	6	2-3	Focus on the new PMO as a necessity for LU as our prime accountability is to get throught the stage 2 funding and governance process, which will be led by the PMO and a recognition of what it will mean under this structure to get full sanction. *"I think it's a critical move for us in LU. We have huge amounts of accountability in terms of going and getting the funding, and one of the other interesting things coming out of the interviews is we kind of think of these two stages of design and construction, but so much of the conversation was about, no one really talked about the date. It was all just a progression of activities, and when we come to get our funding, that's it. We're just going to have to persuade the business that all the activities are progressing at that particular stage and wherever they're at, give them the confidence that they should give us the money to carry on."*
8	G5	6	17-18	Discuss meetings in the new business rhythm such as SMT 2 and war room and then discuss LU Exec meeting and how this is becoming routine now and we have confidence oin the process but it's what goes in there that's important. *"We do our LU exec one on a Monday morning, and that's actually becoming pretty routine now, and we've got a tracker going…this is the fifth or sixth time, as a project team, we've been through TfL Board. So, actually, that's not the complexity. You know, we're pretty certain about what we've got to do there. So, everything we need to feed into that is the difficult bit."*

Contracting Routine – Stage 1 – 4 Incidents

No	Mtg	Wk	Page	Incident
1	SMT	2	3	Recognising emerging accommodation strategy and impact 11th January may have – thinking about works in advance of the April date.
2	SMT	2	6-8	Recognition that the bull ring works are going to be done earlier, including design compliance submission.
3	SMT	6	1-4	Explanation of the new organisation structure; we recognise the need to re-trench into our organisations but maintain the collaboration –Recognition that there is a stage 2 works commencement notice but this is not two separate contracts, there is no negotiation as such; Explain the reasoning of LU setting up the PMO inside Bank to help us get through the governance process as we have a lot of external explaining to do, so it needs an internal team to focus on that for us. *"I've noticed that, regardless of kind of moving apart a little bit, we've got some serious work to do within our own organisations 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.";*
4	SMT	6	5-7	S2WCN date of April has moved to June because of delays in Arthur street and that causes a discussion on the true constraints for that date, i.e. the TfL Board date, it cannot be granted before then; Discussion is around what is causing delays and who moves the dates around.

Designing Routine – Stage 1 – 11 Incidents

No	Mtg	Wk	Page	Incident
1	G5	1	12-14	Introduction to the potential need to split the design; who will lead all this, needs a 'project' manager (note: I001 just joined the project); Discuss various type of people who fit the nature of the task
2	SMT	2	7-8	Use Bullring works as example, to start work in October so need design compliance as a package, which contractors involved, which LU staff involved; issue with stage1/stage 2 funding; espouse values if we are going to split it, i.e. risk based and whatever needed to support efficient delivery; needs to comply with standards (1-538).
3	SMT	2	18-33	Railway migration plan in relation to staged compliance; need to demonstrate relationship between buildability and design; discussion on level of detail needed to be presented, types of drawings, legion modelling etc., what is needed now for compliance, what can come later; Who is involved, what is their role; sequencing with and maturity of construction programme for stage 2; espousing values of collaboration to help determine the detail; seeking a shared view of what compliance looks like; discussion on timings of submissions and reviews; propose need for a compliance strategy document, mainly because we will need to satisfy the likes of IIPAG and EE for our funding submission assurance review; Design by others – i.e. Track; Design changes – how these are being managed in terms of the packaging and submission dates.
4	G5	2	12-31	Reflect on previous days SMT; Summarise and discuss packages and submission dates; discuss progressive assurance, how IDR's will work; who is involved today and what that means for sign-off; sequencing of submissions from supply chain to contractor to client; role of ADE's; Issue of temporary works; Understanding the boundary, what is needed at the boundary and what is done after and then who do we need from the client who is senior to help make these decisions and move things on; discuss strategic position in regards to IIPAG, Bank Board, splitting of the fee and all agree in principle that timing is right but need to understand implications regards overall time and cost etc. and then get more formal sanction.
5	SMT	6	8-13	Seen as second critical path even if we split packages; Still awaiting strategy document – ownership of issues discussed, sense of meaning for both parties i.e. needs to be an agreed position before issuing; Agree to set up separate LU Engineering Meeting with functional leaders to resolve project problems; discuss criticality packages; impact of earlier decision to bring bullring work package forward; understanding of actual deliverables within each package is emerging, better in some than others; Stage 2 schedule can now be adjusted as the dates and criticality of the 4 packages emerges.
6	SMT	6	16-17	Issues of criticality of bullring works comes into question, look back at reasons for decision some 6 months earlier.
7	SMT	6	21	Role of systems integration team is challenged and redirected from railway migration to design compliance.

8	SMT	6	26	before finalising discussion, reiterate need for compliance strategy document so we can approve.
9	G5	6	5-9	This is about the LU Engineering Mtg; discussing the first meeting and extent of its usefulness and decision making, discussed how it is a project decision group not just LU centric, so discussed how that may be governed and discussed role of PMO and the Alliance Protocol to explain it, again this is an issue of getting a shared understanding; Leads to discussion on how the future organisation of engineering management may look in stage 2.
10	G5	6	14-18	About setting up the war room; Discuss the success of having critical path review in each SMT, discuss setting up war room as time is getting closer, issue need resolving quicker, reflect on doing this process for the TWA, discuss who should be there, frequency and structure of the meeting.
11	G5	6	22	Lift stairs issue emerges - they may impact main compliance package, discuss who owns it, who will deal with it.

Constructing Routine – Stage 1 – 6 Incidents

No	Mtg	Wk	Page	Incident
1	G5	1	1	Introducing the accommodation issue at G5 post 29/06/2015
2	G5	1	8-12	Proposing revised accommodation strategy and discussing key issues – options, history, work done to date, timing constraints, budget, space, consents, values.
3	G5	2	6-9	Accommodation emerging on critical path, what are the constraints? defining the problem; what would good look like; revisiting requirements for accommodation; potential of scenario analysis as a tool;
4	SMT	2	1-6	Planning the scenario analysis; understanding the historic 11th January constraint; discussing spatial conditions, i.e. asbestos, scope of physical work to demolish, etc.; identifying the need to do a cost/value exercise on the accommodation decision; identifying who is involved in this information search;
5	SMT	6	13-14	Exploring constraints and criticality; understanding self-constraint of 11th January date; Starting to make assumptions about when the TWA will be granted; Relationship with blockade date.
6	SMT	6	29-33	Discussing outcome of first scenario analysis – leads to further refined search for accommodation, understanding what was decided for logistics, challenging demolition of façade, interface with utilities, identifying potential time savings that may drive decisions. Realising relationship with Arthur St critical path

Consenting Routine – Stage 1 – 4 Incidents

No	Mtg	Wk	Page	Incident
1	G5	1	5-8	In discussing re-organisation, we discuss who will play role in external stakeholders and what that role means; Discuss candidates including client PM and new contractor position; Discuss obligations under the contract; Recognition that it's a shared role in some respects; eager to keep continuity of client pm while going through transition.
2	G5	1	5-8	Recognition of uncertainty v risk and use access to buildings for 11th January and relationship with construction and consents team as an example
3	SMT	2	1-2	Discussion on first scenario analysis and how ability to get access to buildings relates to legal agreements and timings around getting the TWA; Constraint of 11th January was a self-constrained date we set by sending the letters
4	SMT	6	13	Looking at critical path and constraint of having the TWA; Timing of TWA Order being granted and time to discharge duties and for people to get out of buildings; Relationship with pre-constrained date of 11th January for whole block; Discuss assumptions around when Secretary of State will determine based on statutory timescales and the date we submitted; Assumptions being made on date of entry into buildings – 11th January; Won't move people out until TWA is granted; Criticality of lane closures; Constraint of 12 Nicholas Lane because no agreement with them; this overall programme effects the blockade date.

Abstract Event - Stage 2 – Total 88 Incidents

Organising Routine – Stage 2 – 16 Incidents

No	Mtg	Wk	Page	Incident
8	SMT / G5	10	All	Nothing specific as this is the time that external people are doing their review.
9	G5	14	40-42	Planning for Selsdon Park away day
10	BB	15	All	Not a traditional board meeting; External consultant came in to ask questions regards the role of the Board following their review; reflect back on changes of SMT; SV poses a number of questions as a result of the report which sets the baseline for revising the protocol; helps the board understand their role specifically around the commercial arrangement that was set aside that didn't really follow any planned route but ended helping them understand their role by discussing this together….; Reflect back on what happened in the tender and what is known now and use this to think about changes for the future, i.e. BS11000 and should such a formal methodology be used?; Talk about changes in senior staff and how this may affect performance, so who will move on to the board; Discussion on interface with Tier 2's and visibility of board to team; discuss plan for away day and plan for board members to attend. *"So I think if the two corporations are not going to use the mechanisms of the Bank Board for commercial reasons, and I can understand that, take that out of the objective of the Bank Board and realign it to where we think it can add the most value, which is to be fully bought into and understand what the collaborative mechanisms of producing and enhancing, and make sure it doesn't get lost in transition."*
11	SMT	18	1	Recognition that head of LU PMO has broken his leg and therefore won't be in for a few months.
12	SMT	18	1	LU Consents Project Manager returns to become a member of SMT after G5 had decided post inquiry they weren't required but then realised how critical the role was.
13	BB	19	1-3	Discuss succession plan as required under the contract because the contractors project director will leave at the end of stage 1; Discussion on my replacement as I also planned to leave but recent internal LU changes have stalled that;
14	BB	19	25-21	Review and discuss stage 2 organisation; Further discussion on the away day at Selsdon park; Discuss the core 8 bullet points that need dealing with; Discuss how the board will engage going forward, suggestions of KPI's; discussions on incentivisation; discussion on alliance directors from tier 2's;
15	SMT	22	1-4	Post Selsdon Park; discuss reporting, long form every period or short form as per contract; debate the benefits of long and short form - long form keeps people focused.
16	SMT	22	14-15	Proactive about administering the contract; Plus, question SMT's understanding of the priority of critical path actions, are they functioning as a team?

17	SMT	22	15-16	Procurement for stage 2, we are emphasising the need for joined up decision making.
18	SMT	22	20	Do we need additional resources for utilities sub-contract, again we are emphasising the need for SMT joined up decision making.
19	SMT	22	21-22	The need for ownership of issues from SMT members and how decisions are escalated or advised to G5.
20	SMT	22	40-42	Summary discussion about how we are all re-chipping ourselves around our collaborative relationship together, but with an emphasis on the need to administer the contract properly because this is what aids not hinders collaboration. A recognition of the difficult few weeks that there have been; we've been together for long enough to be able to build on that to cope with the different stage 2 context. There is a recognition of the timing of information and how you can't get it any earlier, only when you open it up. *"There's no doubt that we are, kind of, all re-chipping ourselves a little bit if we go out of, you know, stage one into stage two, but the expectation from the client's lead, and from the contractor's lead. The expectation is that there is full and proper due diligent administration of the contract, and we are not able to collaborate unless we do that…So, just to add to that, we are saying have dialogue, try and reach a consensus before you go into writing, don't stop collaborating, but verbal communications mean nothing on this contract. Only audit trails….Agreed.".. "Becoming reality. That's a term that most of you used, and how do you cope with (TC: 01:20:00) becoming reality? That's what we're seeing here now, things becoming reality."*
21	G5	22	1-10	Discussing contractors re-organisation, disjointed following review of forecast; discuss management actions being taken to support and develop organisation; use examples to discuss how the SMT is trying to strengthen itself; This includes some frustrations as well as pockets of excellence; Recognise conflicts in expectations from different cultures from peoples permanent organisation; Interfaces between construction and consents and commercial teams and differences identified between willingness to speak to each other to advance understandings.
22	G5	22	12-13	Discuss using a procurement review as imposing some accountability on SMT to present that to us.
23	G5	22	16-24	Picking up on the SN/NC report and the 8 bullet points, desire to keep momentum; Write up notes from Selsdon Park; Discuss how to take it forward – using internal TfL team, relationship between the BB and G5, G5 relationship with new SMT, reflect on what happened on the second day at Selsdon Park and should we now stop the SMT 2 and let them work it out and come and advise G5; Discuss individuals and start to look towards structure in construction (stage 2); Discuss impact of these changes and impending external review by IIPAG and EE.

Governing Routine – Stage 2 – 17 Incidents

No	Mtg	Wk	Page	Incident
9	G5	10	14-15	Recognition that we will need to do a position paper for IIPAG/EE on the 20 Abchurch change in accommodation strategy.
10	SMT	10	33-34	Uplift in estimated final cost includes indexation and we need to be clear when we get audited by IIPAG/EE that we have not double counted and can demonstrate good forecasting
11	G5	14	8	Need for rigour and granularity in the estimated final cost because the TfL external assurance review will be earlier than normally planned because of constraints of the mayoral elections and this will be a challenge for us. *"We're…being driven to get to a higher degree of granularity earlier that you ordinarily would be...because of such early timings around that review. So, it's a bit of a double-edged sword in that sense…We've got more information available here than you would ever have in any other contract. So we should make our forecast as detailed as we can make it with reasonable assumption, based on the information we have…Agreed but there are still those external people to convince that that's the case and they will come in…They're bound to be doubting Thomas's, by the very nature of them, I agree."*
12	SMT	14	37-38	Flow down of commitments and conditions from the TWA will be a critical element of the funding review; Design compliance milestone of Key Date 2, justification for change has now been sent internally to senior managers.
13	BB	15	12-13	When discussing the role of the Bank Board in general for revising the protocol, we discuss the incentivisation and the challenges of getting that approved through the TfL
14	SMT	18	16-18	Discussion on progression of the design compliance package strategy; Discussed in relation to critical path and issue of stage 2 works commencement notice and TfL Board and how notice could be issued straight after TfL Board if that benefited the project, which helps understand which date to trend against.
15	SMT	18	20	Discussion on procurement and potential to single source some suppliers, this will need to be properly justified as we will surely get audited on that during the submission for funding.
16	SMT	18	28	Further discussion on forecasting of indexation and need for clarity as external assurance review is getting closer;
17	BB	19	11	Highlight key decisions being made around design compliance strategy and accommodation strategy and the impact this has on Key Date and commencing demolition in April.
18	BB	19	18-19	Discuss the planning for the TfL Board in March but papers need to be submitted in December, we discuss the IIPAG and EE review that is about to commence and our expectations of this. We discuss our own due diligence that

				the project will undertake by bringing in third parties to review costs, risks, schedule.
				"We are currently putting a pack together of evidence against their lines of enquiry and I think we'll have quite a difficult ride, in fact, a very difficult ride, around increases in costs, risks allowances for property and compensation. So, I'm expecting quite a difficult time. They will also come in and review the design and they will come in and review the Dragados cost forecasts and our own forecasts and our risk"
19	BB	19	19-21	We confirm that we have issued a draft tracker from client to contractor to start the process for the Stage2 WCN; We discuss further the approach that IIPAG may take based on the external environment that is there now and indications they made when they did a review in June; Discuss how finance see the 'net' position of the project in terms of rental income.
20	SMT	22	10-12	Discussion on accepted programme and timing of submission and dates on critical path in relation to formal issue opf S2WCN and again reiterate that it won't come before the TfL Board date.
21	SMT	22	15-17	Discussion on what works are being forecast in stage 1 that were originally in stage 2 because they need to be in the accepted programme because if for any reason we don't get stage 2 funding then contractually it needs to be forecast in an accepted programme so as to get paid for it if contract is terminated.
22	SMT	22	51	Brief challenge to each other on what external perceptions are based on performances, something important as we close in on external review
23	SMT	22	45	Further discussion on need to get any stage 2 works done in stage 1 in the accepted programme in case of no stage 2 funding or TWA.
24	SMT	22	71	Discussion on certain activities or information needs being out of sequence with a formal assurance review.
25	G5	22	21-23	Discuss IIPAG and EE - EE review underway and looks OK but how will IIPAG react to that

Contracting Routine – Stage 2 – 12 Incidents

No	Mtg	Wk	Page	Incident
5	SMT	10	1-3	Discussion on delay to design compliance beyond Key date 2
6	SMT	10	7-12	Issues with works on Arthur Street utilities causing Stage 2 commencement date to move around; lengthy discussion on critical dates of moving to 20 Abchurch or not; start of construction and hence the notice starts the conversation and is implicit in everything but not explicitly drawn on after its use at the beginning of the discussion.
7	G5	10	17	Start of discussion about LU needing to provide details of what is expected in the S2WCN and relationship with the external TfL PMO lines of assurance. *"So I took an action yesterday to do a load of stuff on-, we haven't got it up on the board there but stage two commencement notice. I need to do a narrative in terms of the lines of enquiry for our assurance review and at the same time I'll do a narrative about key date two"*
8	SMT	14	12-27	Discuss starting the HV Switchroom/Bull ring works and how this will be in advance of the S2WCN and therefore how can that be managed contractually with the supply chain in case it is not granted; A discussion on procurement suggests there may be some deviation from the contract, as well as how we do scheduling in compliance with the contract, which leads me to explain further our approach to the S2WCN which will allow us to amend contract clauses if the project is deemed to benefit from that as a whole. *"In the stage two commencement notice we will be asking for certain things and actually I wanted to mention this about the planning. The stage two commencement notice, we're going to ask for you to demonstrate, all within the bounds of the contract, and we're going to pick certain clauses within the works information that we feel are important to us, either where your performance is detrimental or it's critical for us in terms of complying with our internal processes or the law. We will be asking you to demonstrate. We shouldn't be asking for anything that is outside of what is already being asked for in the contract and we won't. We'll do two columns. What we are asking for and the associated references in the contract. Where you're not complying you're either going to comply in the future, and you need to provide a narrative around how you're going to do that. Where you're not complying, you need to work with the corresponding LU person and think about how we might change the works information…"*
9	SMT	18	6-11	Recognising that 21st April is now the date around which delay is being measured, assuming that S2WCN will be granted on schedule; This leads to lengthy discussion on detail of sequencing around this date.
10	SMT	18	15-21	How does accommodation strategy effect S2WCN; discuss the design compliance strategy of 5 packages and how it is package 3 being tracked against 21st April in terms of delay; Discuss how notice could be given directly after TfL Board on 17th March, meaning earliest stage 2 can commence;

				Procurement of sub-contractors that is single source and justification to external auditors.
11	BB	19	12-21	Explain splitting design packages and doing advanced works in stage 1 (HV/Bullring) rather than stage 2, there was a need to explain regards commercial and contractual position that Key Date 2 and S2WCN are two different dates and shouldn't be confused, this leads to discussion on contractual position of early works and fee on design and what the contract says can be done, there is some confusion and meaning making still to be done. *"M: We can start some of the construction works before all the design is complete.* *M: According to assurance.* *M: Yes.* *M: Yes, but that's not why the contract is constructed.* *M: I'm about to say there's a lesson learned here for future contracts, should this be used again, because the practicalities are, unforeseen events happen, the (? 35.43), the development of the (? 35.44), the negotiation with stakeholders, naturally delays something which under contract delays key date two. If key date two is a precedent to stage two commencement notice, that's not the intent for the way the contract was written, I suggest.* *M: What I'm saying is, it's written the way it's written, so it needs regularising and it needs to make sure that they project team are-,* *F: Yes, everybody's agreed what's the right thing to do. What we do now is make sure you can do it in governance and if not, amend the governance, or contract.*
12	BB	19	23	Because of the work to be done on understanding the contract in relation to the S2WCN, agreed to have another board before Christmas.
13	SMT	22	9-12	Need for fully cost loaded schedule for S2WCN; expectation in tracker is that it is compliant with contract, nothing more; discussion on what date this will be issued, lots of challenge on achieving that with information available within that timeframe; risk is not getting it signed off by 21st April and so delay in notice, so what is realistic target that includes time for client to review.
14	SMT	22	43-44	Discussion on commercial forecast for stage 1 and its relationship to 21st April date, need to understand this as commercials are structured differently and some stage 1 works (design) may flow into stage 2 with delay to design for example.
15	G5	22	3-4	Discussion on organisational changes in commercial team and what this means for who is responsible for working on the S2WCN; Discuss tracker and accountabilities and its presentation at the next Bank Board in January.
16	G5	22	11	Discussion on 21st April date in relation to commencing demolition.

Designing Routine – Stage 2 – 11 Incidents

No	Mtg	Wk	Page	Incident
12	SMT	10	1-4	Design compliance is still secondary critical path; discuss detail of packages and which one is main package and date of that in relation to Key Date in the contract; need approval of strategy document at Bank Board and then agreement there has been change control to manage achieving the Key Date for Package 4 as main package and then consider package 5 separately.
13	SMT	10	11-15	Start to question the logic of the bullring works if they are not critical (85 days float) and other packages are critical to Key Date 2, which resources are doing what, role of the war room in helping that; NOTE: I explain difference between capability level and practice level, meaning schedule for five packages is the capability level and war room is the practice level.
14	SMT	10	18-24	Period report now includes graphics showing deliverables for each design package, discuss interdependency between the client (ADE's) and the contractor in terms of hat the client actually wants to see; Final discussion on developing the programme on packaging to share with LU.
15	G5	10	1	Discuss how stage 2 programme reviews are being set up, plus design compliance strategy review as there is some frustration this is still not closed out.
16	G5	10	8-12	Detailed discussion on the LU Engineering meeting and the war room, how it might be messy at first but settle down, lot of discussion on who is involved and the nature of those individuals and their interaction together; a real focus on settling down the structures and people we have in place to gather the necessary information in a timely manner.
17	SMT	14	8-20	Design compliance still secondary critical path; different design issues emerging as the design moves towards completion, i.e. sheet piling in Arthur street; discussions are lengthy because the extend beyond the technical issue to how it relates to the decisions on procurement of the sub-contractor for stage 2; relationship between temporary and permanent works and what needs to go to compliance submission, i.e. temp works doesn't but needs to show its interdependence with perm works; start to discuss moving to work on site, getting ready for bull ring, will design be ready for procurement in timely manner; Discuss further interdependencies such as 20 Abchurch and then finish with espousing the need for the war room and to use this as a forum to manage the interdependencies, we share our experiences of doing it previously.
17	G5	14	11-14	Concerns that the extent of design development in time for compliance to start construction is being watered down and this is a concern, package 1.1, 1,2 etc.: The relationship between being flexible and complying with the contract/standards.
18	SMT	18	11-17	Resources are focused on the bullring works and getting the design closed and work started but there is float on the end of that activitiy, whereas reasons for doing it now is because it was critical before whent eh decision was made to do it, but now those resources could be better used elsewhere; War room being used as a place to resolve problems; discuss relationship with construction resource availability; discuss if

				the move to five packages is now in the schedule, yes, but still trending in wrong direction because of package 1; discuss relationship with April date and issue of Stage 2 CN and realise that main submission will now be late.
19	SMT	18	31-32	Summarise by thinking about this first submission going through, although problematic, will act as a learning exercise
20	BB	19	11-15	Presenting the five-package compliance strategy, presented as Dragados proposal to LU team, explain construction that starts now, contract Key Date 2, pile clashes are complex and so pushed back; explain the schedule implications of that and how it has been reported in the period reports; discuss the commercial issue of releasing the milestone fee and contractual position with the stage 2 works commencement notice
21	SMT	22	30-49	Design compliance continues to slip to the right despite our efforts to split compliance, so we start to explore mitigation plans for this, which involves detailed exploration of the risks, issues, constraints on activities in the schedule; timing of procurement packages, design is delayed and procurement is not happening a timely manner so there becomes contractual issues; I mention how procurement has been talked about in all the interviews so why is not being focused on enough here; Some clarity and misunderstanding on what is in package five; Lots of confusion of the exact status of design packages and associated dates and relation to procurement, it seems to have become quite messy and the session is spent working that out; Discussion moves to how all that gets managed contractually in the team and the need to use written contractual communication as well as informal verbal – this is not seen as not collaborating; There is a part two to the session that then looks at the commercial and contractual implications of what is happening and how that can be managed sensibly together;

Constructing Routine – Stage 2 – 9 Incidents

No	Mtg	Wk	Page	Incident
7	SMT	10	8-9	Scenarios coming to completion, constraints understood more clearly with relation to blockade, need for TWA powers and UKPN power works, 11th January. Challenging constraints comes to a close.
8	SMT	10	35-37	Discussing accommodation search – change in external market, project itself is affecting external market, open up challenge to what was in the original contract in terms of space requirements.
9	G5	14	1-3	Introducing the forthcoming presentation of the results of the accommodation information search, setting the scene for what is to come, which could be a difficult conversation now the facts are better known.
10	G5	14	13-39	Challenging assumptions made in putting forward the options around accommodation. Fixing assumptions and excluding options because time is ready to move on, therefore 20 Abchurch becomes more certain to be demolished. Looking at commercial implications of options. Move on to look in more detail at contractual requirements and options for future site layouts – discussions move to more future orientation in detail. Recognition there is a contractual issue to deal with.
11	G5	14	45-46	Comes back to the discussion at the end of the meeting, confirming agreements and actions. Crystallising the decision to demolish 20 Abchurch and finad alternative accommodation – making this decision internally for the best of the project before formal sanction.
12	SMT	18	23-28	Intuitive confirmation that we will demolish 20 Abchurch (prior to formal approval), Ask what this means – as we don't yet understand all the options regards silo's accommodation etc. Options being reviewed, need to understand consents so link with TfL/Eversheds; Focus is on risk of demolition as outside current powers; timing of when we will demolish with current consent and impact of that as need to build in five years; report coming to G5 and we need data to validate; discussion of budget and impact on budget, accuracy so not double counting.
13	OAD	18	74	I recognise it's a messy situation at this point in time, recognising. *"The point is for me that we seem to be entering this phase where as we approach critical dates (and whether you see the transition as a process rather than a single cut-off date there is still not doubt we are moving towards critical dates as we need to start construction at some point) there seems to be an ever increasing amount of information that is coming available, or should I say information needed, or a realisation that information is needed that was previously not thought of?"*
14	BB	19	7-11	Need to get consent from BB before formal stage 2 approval because we need to start procuring certain items now at this point in time; Explanation and justification given by G5 to BB, explaining present status of information and espousing a beneficial future and the negatives of remaining where we are.

| 15 | SMT | 22 | 51-76 | Little bit more tension in the air, contractor espouses a position slightly differently to the client; Realy detailed and lengthy discussion about the flow down of consents; questions around understanding of own team; information needed in embedded in other documents (i.e.TWA Order – not yet formally granted); external advise sought; don't want to issue in draft; but need to progress to procure things; knowledge – difference between secondary consents and commitments; lots of discussion around who should be involved, SMT etc.; What is or isn't in the programme and hence whats driving the schedule in terms of gaining consents on time to do work; issues are emerging in real time, such as MOLA |

Consenting Routine – Stage 2 – 23 Incidents

No	Mtg	Wk	Page	Incident
5	G5	10	9-10	Discussion on engineering war room which is about to start and we reflect on how we did something similar in the TWA and the lessons we have learnt from that.
6	G5	10	12-13	Discussing seating plan arrangements in the office and recognise that consents plays a more secondary role now TWA is in and focus is on engineering and construction.
7	SMT	10	8-9	Further discussion on relationship with TWA and 11th January date in terms of scenario analysis and realisation that only getting WTA early will help, we can't change the 11th January date; Relationship between access to buildings and blockade date, including 90-day buffer.
8	SMT	10	13-14	More discussion on the benefits of the war room for engineering and reflections on benefits during TWA and how it really works into the detail of the information that is needed. *"As we got into it, the level of detail we got into, the devils into the detail, and when you get fifteen, twenty people standing up, not sitting down, going through key issues and you get all that intelligence together in a room, it's amazing how you drill down to the detail and open up. Every time you turn a page, you open up another issue. If you do it collectively, you can focus your attention on closing them down."*
9	G5	14	17-18	Discussion on demolition of the façade of 20 Abchurch and the TWA Planning conditions to do that.
10	G5	14	35	Discussion on dates for demolition and the instructions we give to the TWA/Consents team to go away and start the planning process for the demolition of 20 Abchurch.
11	G5	14	38-39	Discussing decision to demolish 20 Abchurch and contractual position and recognition that there will be contractual changes coming from the TWA commitments that will affect this and they need to be instructed.
12	SMT	14	8-9	Stakeholder legal agreement and design development interface issue where requirements for track alignment and building movement are in conflict.
13	SMT	14	11-12	Design / Stakeholder interface in assessing building movement and legal agreement under TWA.
14	SMT	14	18-20	Setting up engineering war room and reflections on TWA and explaining that to the wider team; I talk about the theoretical aspect of mutual adjustment. *"When you've got huge amounts of complex interdependencies like that, that are all reliant on each other, but what they call mutual adjustment is the only way you can do that. How are you going to create that mutual adjustment? A mutual adjustment is a really free flowing kind of complex thing and standard weekly meetings just don't allow that to happen, which is why I think the war room or whiteboards are the most effective way of doing that because you can hear*

				people, you can see people, their expressions, their-, you know, you can just see it in the war room, people opening up."
15	SMT	14	28	Need to start some procurement and therefore the need for a break clause (like the S2WCN) in case the TWA is not granted.
16	SMT	18	1	Recognition to the rest of the SMT that LU Consents PM has come back to join the senior management team.
17	SMT	18	23-25	Interface between construction and engineering in regards to getting legal advice to demolish 20 Abchurch for the accommodation strategy as this wasn't what was formally in the TWA, it came in the OSD application which was different.
18	SMT	18	38-39	Making assumptions about when the TWA may be granted as report says expecting in October; Still some delays as some agreements waiting to be closed out still, i.e. Crown Land which you can only negotiate with; Therefore, more likely to be a December date and therefore programme to be amended
19	BB	19	9-10	Advising Bank Board of the legal implications and authorities of demolishing 20 Abchurch and the implications in terms of statutory planning; How to persuade planning authorities of the benefits.
20	BB	19	24	Awaiting the formal approval of incentivisation and concern that TfL external assurance reviewers have an issue with it and therefore ned to get it closed out urgently because the work is associated with behaviours and actions during the TWA prior to and during the inquiry.
21	SMT	22	14-15	Archaeology in Arthur Street and necessary consents and how we have instructed the supply chain regards changes.
22	SMT	22	17-21	Archaeology requirements from the TWA planning conditions and details of what exactly is required and how to execute that; Lack of understanding amongst the team on some of the conditions of the TWA; Lengthy discussion on issuing the commitments and consents contractually to Dragados and discussing whether they are draft or actual because the TWA hasn't been granted yet, or can you issue draft under the contract?
23	SMT	22	42	Consents is used as a focal point for discussion in discussing the maturity of the SMT following the Selsdon Park away day. *"I think this group is well-developed enough as a group for us to air dirty linen. That's a positive statement about this group. In a traditional project review, we'd be keeping that between us and taking it offline. The same with the dialogue about the environmental and consents, we're actually confronting issues as a group and getting more competent at actual saying it. Then we can go away and form contractive positions, and administer it accordingly, and that's what we need to do, but we shouldn't stop doing what we're doing. Which is being open about the issues, and collectively trying to manage them."*

24	SMT	22	52-70	Further lengthy discussion on the issuing of commitments and compliance register and what that means under the contract; it is a large task that is difficult for the client themselves to do; Discuss differences between different types of consents and commitments; Relationship between construction and consents and dealing with it; what does it mean for the programme and what constraints from commitments are in there?; Discuss detail of particular consents and commitments; Discuss who is involved and who needs to come together to resolve it, again emphasise the need for the SMT to come together as a management team.
25	G5	22	2-3	Discuss issues from Selsdon Park workshop and performance of team in SMT when discussing consents and commitments under the TWA.
26	G5	22	7-8	Organisation discussion on interfaces between construction and consents team.
27	G5	22	17-19	Further discussion on organisation and this time expressing more frustration on the relationship between consents and construction and the individuals involved.

Abstract Event - Stage 3 – Total 64 Incidents

Organising Routine – Stage 3 – 10 Incidents

No	Mtg	Wk	Page	Incident
24	G5	25	1-8	Ariella joins G5; This is mostly **reflecting on the bank board** that I didn't record; Sign off of incentivisation discussed; BB agreed to reduced size protocol and to think about objectives; Stage 1 costs and incentivisation in stage 2; Agreement to running a tracker for the Stage 2 WCN; Discuss in more detail how we will develop the revised protocol and the timings of that, how it will act as foundation for next five years; involvement of tiers 2 and supply chain.
25	G5	25	14-15	Discuss in more detail connection between SMT and G5 and how both organisations will be different in stage 2 and so how we deal with that transition, proposing that contractor PM creates the link.
26	BB	30	20-32	Discussing revised protocol; changes to board membership in stage 2; confirm protocol is non-binding; Discuss proposal to disband G5 and SMT and crate new project exec; Creation of operational coordination group; discuss who is going to attend what and the connection between them; discuss how G5 was very informal but how to connect the void between G5 and SMT; Role of engineering and construction discussed in some detail.
27	SMT	30	18	Discussion on SMT role as a whole in going through the programme and the need for that shared review/understanding.
28	SMT	34	17-19	Further incident of needing SMT to have joined up decision making regards movement from stage 1 to 2 around design. "I'm not sure you're getting the point. We haven't got compliance for the design. The design is like we discussed it yesterday. There needs to be some SMT collaborative mitigation here that escalates a commercial decision of risk, do we develop and procure steel without compliance or not and what's the likelihood that event is going to occur? That's the mitigation."
29	SMT	34	27-29	Discussion on number of iterations to get a method statement signed off, how collaborative and efficient are we being, we should be better; Some reflections ion the past and espousing where we should be with getting it signed of first iteration in a collaborative environment.
30	SMT	34	49-50	Discussion on how a number of examples of where collaboration has hindered decision making and we should be driving the programme.
31	SMT	34	74-75	Discussion on being more effective in closing out changes contractually within the commercial team.
32	G5	34	5-14	This meeting is the one where we really challenge what we mean by the alliance and are we really working together or not, what it means to collaborate, which is triggered by some lack of communication between engineering teams; Start to

				propose programme reviews and potentially an away day to review the schedule; We discuss the exchange of information, …Some quite detailed conversations discussing these points and individuals and emphasising the need to get away with everybody and communicate our position as new people join.
				"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? Maybe that is the right thing to do. If that's not we want then we need to communicate that and help them and help ourselves to-, but, you know, there's a trend in the organisation."
				"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 way with that. So, you know, are we loosely collaborating or are we vigorously apart and managing the contract, and, you know, you said you can't quite work out sometimes which one of those we're doing, and I think that's the tension and that's the challenge, and I don't think anybody ever gets right. I think that's part of the difficulty and the enjoyment of running an organisation, is you're always continuously trying to get that balance right."
33	BB	35	12-44	Extensive discussion and presentation of new protocol: Discussion starts by clarifying date of S2WCN approval; Discuss change in name to represent it is not a formal alliance, but some disagreement that 'management' doesn't have the connotation of collaborative; From 8 to 6 objectives; Explain reasoning for cooperation and coordination,; Objectives are discussed in more detail and expectations of what they will achieve, be smarter etc.; Extent that the protocol covers the whole team as its focus is on client and contractor; Training and inductions for new staff to understand requirements; Discuss final draft version of revised structure with project exec and org coordination group, going through the principles of what we have done; looked at different roles, i.e. sponsor; Seek agreement to running first Project Executive this week before the formal sign off; How this would then flow into slowly establishing the operational coordination group; Discuss having an away day and the timings of that in relation to formal milestones; Recognition that this is contractor project directors last board meeting.
				"I tried to structure it around this cooperation and coordination and these mechanisms which is the little bit that I've taken from some of my studies which I think just helps. That was some of the challenge that Ian and I were having. What are we here to do and what is the document trying to do? Just get us to behave properly or manage the contracts? I think it's trying to do both."

Governing Routine – Stage 3 – 10 Incidents

No	Mtg	Wk	Page	Incident
26	SMT	30	33-35	Discuss tracker for Stage 2 WCN and plan for BB the next day, we discuss difference between procurement and financial authority, the specific actions we need to take get the S2WCN issued; Highlight key challenge being the stage 2 accepted programme;
27	SMT	30	36-40	Discussion on the exact role of our external support (G&T and LBA), specific focus on role of LBA and to look at logic in the programme; some conflict around why that is needed, reflect on problems with the budget in the previous summer; reiterate the need for the assurance from a client perspective before they commit to additional funding at the TfL Board; Come around to understanding that this review should be there to help both parties understand, it will be for the project team to assess peoples reviews and opinions and decide what to do.
28	BB	30	15-16	Discuss position paper for the accommodation strategy that will go to Stations Board, because we need to place the contract for demolition before we get full financial authority.
29	BB	30	31-32	Discuss protocol and away day and the timing of this in relation to the TfL Board**.**
30	BB	30	16-18	Discussion on incentivisation and its final sign off before we get further into the funding round.
31	SMT	34	32-33	Discussion on the external reports done by the project regards the programme and getting intro more detail regards production rates etc.
32	SMT	34	37-38	Discussion on submission of design packages to meet the April start date.
33	BB	35	1-2	Discuss the S2WCN Tracker and the date it will get issued, we note that it can't be issued until TfL Board has given financial approval on the 17th March.
34	BB	35	3-7	Discussion on the results of our external review report we had done and how that relates to the external TfL Assurance, issues they are having elsewhere, perceptions of Dragados externally and we discuss how we might mitigate this with a senior management meeting between directors of the client and directors of the contractor.
35	BB	35	39-40	Discussion on date of next BB meeting in order to finalise the protocol and the S2WCN so relationship with TfL Board date.

Contracting Routine – Stage 3 – 9 Incidents

No	Mtg	Wk	Page	Incident
17	BB	30	1-10	We present the Tracker and the approach we are taking with the S2WCN notice being a presentation of a position: we discuss element in detail but interesting that position the board upfront by reminding them of the original intent of the contract clause… Tracker is gone through in detail and recognition of another Board needed before the S2WCN is issued in April. *"M: Just as a reminder, there is no definition of what constitutes agreement or not to a stage two works commencement notice. The client made that decision pre-contract or pre-tender to leave that open to its own digression. So what we prepared as a client was a schedule of items that we felt were important to demonstrate sufficient progress in terms of contractual obligations in order to move from design into construction. Nothing that has been asked for is outside of the obligations under the contract, and the schedule of items is caveated against the provision of a narrative to suggest where we are or we're not on the journey of achieving those things. Clearly, it's a designer built contract, it's not a black and white line, and some things will necessarily continue to progress and develop. We need to have the narrative around the insurance around that progression and development. I think both parties will get to the point where there are certain items that need to be-, how do I term it? Sufficiently progressed and closed out before the notice gets issued."*
18	BB	30	15-16	Discussion on 20 Abchurch paper and April start date.
19	BB	30	21-22	Discussion on relationship between the S2WCN and the alliance protocol.
20	SMT	30	33-34	Summarise by discussing date for closing tracker out and make statement that we have authority at Bank Board level to issue the S2WCN, it does not need TfL Board approval, that is already granted; Discuss relationship with the external GandT review in terms of timing and their role, in being a reviewer but in a positive way to also assist the project team; Discuss changes to commercial reporting with greater clarity on assumptions.
21	SMT	34	8-12	Discussion on final version of programme to be submitted for acceptance to the S2WCN and lots of discussion around making changes to the contract (Works Information) that can benefit a more streamlined approach in Stage 2 and how the S2WCN allows an opportunity to do that, but who proposes and accepts and how that gets approved is discussed.
22	SMT	34	35	Discussion on need for clarity around the design costs in terms of Stage 1 and Stage 2 or S2WCN will not be issued if that clarity is not there.
23	G5	34	9-13	On the back of a discussion about having a day away and as trying to close out the tracker as the date approaches, this is a lengthy discussion on the relationship between the contractor and the client and the paradox between managing the contract and working collaboratively.

24	BB	35	1-14	Detailed discussions on the tracker, still reds and ambers only one green but time still to go; Recognition that Gand T report is done and we have sat with IIPAG to discuss with them; Issue of TWA flow down of commitments and conditions still ongoing; The question is asked, 'what happens if we don't get approval?'
				Recognition that things are challenging and propose a meeting between senior directors of client and contractor so situation can be managed as we go through client board approval process; Discuss more commercial items such as the emergence of the inflation issue; again at the end of the meeting we come back to the issue of what happens if agreement is not reached, this is a lengthier discussion and we discuss fall back is ultimately termination of the contract but there is general agreement that because the negotiations and presentation of data is going well, this will not happen, it is about maintaining the positive narrative but backing that up by presenting available data.
				"M: Dare I ask what happens if you find an item that you can't get agreement on?
				M: You can ask that, yes.
				M: My understanding, we're not trying to set up a final account here. We're trying to obviously close as much as we can but have a position, well narrated, that underwrites the confidence to go forward."
25	BB	35	32-34	Discuss frequency of board meetings and recognise that they have been more frequent recently because of the nature of getting the S2WCN signed off, they can move back to monthly or every two months after that.

Designing Routine – Stage 3 – 8 Incidents

No	Mtg	Wk	Page	Incident
22	BB	30	1-7	Predominantly a discussion around S2WCN and Stage 1 costs which impacts on how design compliance is understood commercially because of the delays to the compliance submissions**.**
23	SMT	30	1-12	**R**eview critical path of activities to get construction started and design is now emerging critical path, not second; start to see the names of other construction staff beyond the bull ring now becoming more directly engaged; Bull ring works still have design issues as we engage with the complexity of working in the station; external design outside the station has progressed more smoothly; As usual lots of challenge from management on the critical path and the progress of design activities in quite some detail; if G5 can understand it then they can help remove some constraints, especially with suppliers and third parties.
24	SMT	30	45-49	This is a period of reflection at the meeting where we really espouse the need to move on and get the design closed out at the level it is at now so that we can get into construction; Lots of discussion about what is 'actually' needed at the gate review to transition and what is sufficient; There is a real sense that the **fixed date** for transition is impacting the way we are behaving and the activities we are doing and the choices we are making, this seems a pivotal meeting where we start to espouse a change in the language from what detail do I need to complete the design, towards what information is enough that I can start constructing and then get the rest of the information I need once I am the other side of the line; There is an issue that now packages keep getting put back, there is a bow wave of demand on resources when the date is fixed and not changing, so something has to give. *"We need to change the focus from design. The only reason I'm designing anything, or we're designing anything, is to get into construction."* *"You know, we're here to build something, not to just design something. I think we've got to start taking a view, Juan (ph 01.53.32), around we shouldn't be scared about saying, 'We'll deal with that when we get to site and we'll put it on the as-built drawings.'"* *"It's just moving that into, 'Do I really need to do the design of that widget to the nth degree now, or is it sufficient to get out on site and build stuff, and I'll deal with the last bit when I get out there?' There's a fine line between the two, but a lot of stuff we can just put on as-built drawings and say that's what we've done, rather than trying to design everything in the nth degree of detail."* *"Is it something that we can deal with, in front of the line or behind the line? I think that clarity's missing (ph 01.55.55). I think people are coming up with issues, but whether it sits in front of the line or behind the line isn't abundantly clear to a lot of people."*
25	SMT	34	18-21	The design compliance packages have now forecast out beyond the contractual Key Date 2, this date is now a commercial/contractual issue and the critical path issue now is more closely related to procurement and practicalities of starting on site, so we discuss here how that

				commercial/contractual issue will be discussed; Commercial paper to be written and escalated to G5.
26	SMT	34	34-48	Further detailed discussions on certain design elements but the principle is the same as earlier comments, its about fear of drift etc; dealing with perhaps more tricky bits of design and commercial issues around IFC drawings; Deal with procurement in relation to packages and what are the individual items in packages that need dealing with.
27	G5	34	3-4	Undertaking the passenger modelling on the design submission to validate the design in terms of business case and contract, question around doing that now because of drift of final packages of design and defer of package 5.
28	G5	34	5-8	We reflect on the SMT of day before and focus on the senior design managers and their role in moving from focus on design to construction, discuss how we might get involved more in war room to push the issues. Nice quote here as Ariella wasn't at the meeting: *F: I was not at SMT so I don't understand this topic. M: Well, as we get close to finishing the design, there are two issues really. One is what's enough for design compliance and move on, and that has some commercial connotations around fee and how costs are distributed between stage one and stage two. Then, it seems as we're getting to the end, design changes are coming in, either necessary or not, and that decision making around what gets moved to the other side of the line, I'm not sure is being done as efficiently as it could be. That's my perception coming out of yesterday.*
29	BB	35	8-10	Commercial discussion on the stage 1 costs especially related to design and how we can separate IFC drawing from the other design that is still ongoing because of delays to design compliance submission.

Constructing Routine – Stage 3 – 10 Incidents

No	Mtg	Wk	Page	Incident
16	G5	25	10-13	Some final constraints/assumptions being offered around numbers now that information search is coming to a close; espousing demolishing as best solution for the future benefit of the project; recognising the financial implications;
17	G5	25	15-23	need to do a board paper recognised; now that constraints and assumptions are finalised(?), looking at greater granularity of the different options, specifically the financial aspects to be able to make like for like comparisons.
18	OAD	25	137	meeting with finance where we discussed results of information search and informal agreement given before paper goes in.
19	OAD	29	158-164	Submission of RUB funding paper, finalising 20 Abchurch board paper
20	OAD	29	165-167	Internal LU team discussion on contractual position of 20 Abchurch
21	SMT	30	14-29	Demolition now emerges as the critical path now we understand the constraints better, lots of issues around timings of being granted revised consents now that we are demoliting; Discuss how we will deal with it contractually; Again some discussion in the team around who is responsible; discussion on schedule constraints and property takeover; relationships between suppliers and third parties becomes critical (Keltbray and UKPN); Espousing a shift towards a can do attitude, especially now that we have powers; More focused discussion on the demolition contractor and how they will start, their constraints etc.
22	BB	30	10-16	Explaining the justification and seeking, being granted approval at Board level, all about how we have been constrained, future opportunities and what the situation looks like if we do or don't do it, confirming what authorities we do/don't have to go forward.
23	SMT	34	3-7	Schedule constraints of consent approvals and commencing work is discussed in detail as the schedule presented doesn't match the challenging discussion; Driving down into fine detail and actions to be taken to achieve the start by 21st April; understanding relationship with stakeholder and what that means for the success of gaining approvals on time, i.e. flexibility; Discuss what work can be started to mitigate any delays, i.e. building surveys.
24	SMT	34	12-14	Clear that whole block is now primary critical path and then relationship with blockade, all savings identified in scenario analysis are now gone (my assessment); Importance of Nicholas closure by 21st April; more discussion on consents and CoL
25	SMT	34	16	discussion on final contractual instrictions now issued.

Consenting Routine – Stage 3 – 17 Incidents

No	Mtg	Wk	Page	Incident
28	G5	25	1	Introduction on what will be discussed and clearly need to discuss TWA now granted
29	G5	25	9-13	Discussion on how we react to the TWA being granted; Discuss formal communication externally; Discuss internal emails of congratulations with senior management; Discuss first actions to be taken to get people out of buildings; Discuss our understanding of the statutory timescales that now come into force which dictate what we can do when; While accommodation strategy is no yet formally closed and how this now perhaps strengthens the argument to do it.
30	G5	25	21-25	Discussion on which images to use for the news clips to announce the TWA and internal communication around that and approval of images etc.
31	BB	30	10-12	Discussion and seeking agreement/approval on the way that we formally deal with contractually instructing the TWA commitments regards to the worksite in Arthur Street and its relationship with the accommodation strategy as this needs to be dealt with sensibly to avoid potential dispute/conflict.
32	SMT	30	16-21	Discussion on programme and critical path and have we now included all the commitments into the programme; They are there but are they connected to the right activities. This leads to discussion on critical path and then the use of the TWA as a statutory instrument to get done what we need to get done. *M: We've got to get smart on our chronology, and this is the point I made, saying are they in the programme is a meaningless statement. Does the programme reflect that the obligations and the constraints with the durations, the links, the risk and the answer to Simon's question is no. We've made assumption over the last six months, there's been drip feeding of information into the programme, we're now moving to a point of clarity, and when we submitted R30, there was a condition that said that the consents for works to commence is still work in progress, as you've said. So, that's the position in R30"* *"…, we should not be worried about using the full might and power we've got under the TWA to just push on and push on and push on. We've got to get that message flowed down into the team, to, kind of, get a bit more of a can-do attitude about some of this stuff. It's really important."*
33	SMT	30	29-35	Discussion on archaeology and submission of secondary consents, the timing of these, who signs them internally in the team, when does the 'clock start ticking'; relationship contractually with timing of submission of secondary consents between contractor and client; Discuss risk of challenge and commencing without formal consent and what that means legally, pushing the boundaries as such; Reflect back on similar issues we had when we were seeking authority for utility works some year or so earlier.
34	BB	30	10-12	Further discussion on contractual position of commitments and consents from TWA in Arthur St, specifically discussing some of the complexities and what that means for the accommodation strategy; G5 members argue the case to the board for their position.

35	SMT	34	5-7	Discussion of meetings with key statutory stakeholders; Seen and understand as purpose of progressive assurance but questioning their effectiveness when it comes to decision making, especially in meeting statutory timescales without further revision; Note changes going on inside stakeholder organisation. *M: I think we've jointly put these plans together, before you submitted them, and when these plans came across to us, I think we should issue them to CoL. Put a line in the sand.* *M: Absolutely. That, to me-,* *M: The clock starts ticking. If we want to consult with them, we give them two weeks to review it, and then we look at their initial, early, comments.* *M: If we're going down the statutory timescales route, we should be submitting them at the earliest given opportunity, and we're not doing that. We're holding off on (? 11.13). This was something using the (inaudible 11.14)-,* *Oh, well, I don't agree with that.* *M: We're holding off on them, and then we're having a meeting, then we're updating the documents. This is Charlie's point, now we're three to four weeks down the line, and then the eight weeks starts.* *No, I think as soon as you're ready, you submit the document. Then you get the eight weeks ticking. Why are we not doing that?* *M: I don't know. I think we're just creating an impression that we're not confident in our documents by not submitting them and having these early consultations*
36	SMT	34	12-13	Issue with need to close two roads that wasn't originally in the order and the impact that getting the consent for that has on the programme; Discuss submission of these documents between client/contractor as well as client to statutory stakeholder.
37	SMT	34	14-18	Discussion on how changes to layout in Arthur street as part of TWA commitment and legal agreement with stakeholder have changed the need for some ground movement assessments within the design.
38	SMT	34	25	Recognition that commitments and consents now formally instructed to contractor and so need to get that in the programme.
39	G5	34	1	Brief discussion on doing further scenario analysis on the road closures etc.
40	G5	34	6-7	Discuss talking about the consents for Nicholas Lane at the upcoming breakfast meeting.
41	BB	35	2	Explain the extent of the commercial position that remains to be negotiated having now formally instructed the contractor on the TWA commitments and consents.
42	BB	35	7	Further commercial discussion on TWA in relations to stage 1 costs.
43	BB	35	13-14	In discussing the issuing of the S2WCN, we reiterate that it was related to the issue of potentially not getting the TWA.
44	BB	35	30-31	Discuss revised organisational structure under the protocol and the role that Consents team will play and in what group they will sit.

Abstract Event - Stage 4 – 37 Incidents

Organising Routine – Stage 4 – 6 Incidents

No	Mtg	Wk	Page	Incident
34	SMT	38	All	An emphasis on escalation of issues to G5
35	BB	42	9	Discussion on delivering assets into use highlights historical problems and so how we need to use the protocol to act as a cohesive team focused on the objective.
36	BB	42	13-21	Reviewing finalised protocol; Focused on what we have changed and finalised; How we are going to roll it out to the team; Talk about the away day and how we are going to use that ti finalise objectives; Change in no longer having a BB chairman.
37	SMT	42	1-2	Reflecting on positive previous day, breakfast meeting and Bank Board, where I016 gave first presentation as project director and introducing all the people joining and BB approved protocol and commercial items; *"So, I thought the breakfast meeting was really good. It was great for Ian to do the introduction. For me that, kind of, notified a change from designing to construction, as well as from Danny to Ian. I thought that led on really nicely to John, and it was great how we weaved the introductions of all the people coming in, and the construction coming, and Sam and Andy sitting downstairs, and Ian moving up, and everything like that."*
38	SMT	42	11-12	Issue of hoarding design and how protocol sets up operational coordination group where these kinds of issues will be discussed.
39	SMT	42	32-46	Contractor PM presents exec summary for first time; We present the revised protocol and the changes made, explaining the elements in the same way we did for Bank Board; Discuss the assignment of objective owners; Talk about the planned away day and roles people will play in facilitating tables; Discussed how Project Exec is now up and running and how we see the SMT fading away and the Operational Coordination Group emerging.

Governing Routine – Stage 4 – 4 Incidents

No	Mtg	Wk	Page	Incident
36	SMT	38	33-34	This is the day before TfL Board, so fingers crossed and discuss how it can be watched on the internet.
37	SMT	38	33	Discussion on LBA report and how we are following through on actions
38	G5	38	24	Discussion on the drop-in session downstairs but also the fact that it is TfL Board today.
39	BB	42	25-26	Discuss the LBA report and further actions being taken from that with recognition that IIPAG will be coming in in July to look at what we have done as a part of their annual review.

Contracting Routine – Stage 4 – 5 Incidents

No	Mtg	Wk	Page	Incident
26	SMT	38	2	Brief discussion on presenting data for the S2WCN within the schedule.
27	G5	38	21-24	Discussion on the timing of the planned away day and due to various constraints of peoples' time we settle on early May and agree one of the benefits is that this will be post approval of the S2WCN.
28	BB	42	3-4	Formal sanction from the BB for the S2WCN, noted that LU have been having meetings prior to the board as it is 'the 'employer' that needs to issue it. No issues, needs formal contractual exchange; Discussion on what is positive/negative but in all our interests and again a reiteration of the purpose of the S2WCN.
29	BB	42	25-26	Discussion on the recommendations from the LBA report on the tunnelling and how that is going to be incorporated in the accepted programme that aligns with the tracker and S2WCN sign-off and how that will be dealt with IIPAG.
30	SMT	42	1-2	Reflecting on Ian doing his first breakfast meeting presentation, signifies the move into the next stage, maybe not from a formal sanction perspective but a behavioural one; Recognition that people are now sitting in different places, i.e. Sam and Andy; Reflect on the previous days Bank Board and the agreement to the S2WCN and how relationships were strong despite recent challenges, a realisation that we are now, although not completely formally (notice not yet formally issues), into stage 2. *The issues, the dialogue, it's all about delivery now, isn't it? I've come into work this morning feeling a lot of a load I have left behind now, and can really look forward. So, yes, a really positive day for me.* *Yes, absolutely. Okay, so it's all about delivery. Programme is king. A single source of truth. Whatever other bollocks you want to say. Get up there and tell us about it. Now, is this R32?"*

Designing Routine – Stage 4 – 11 Incidents

No	Mtg	Wk	Page	Incident
30	SMT	38	3	SMT Week 38 Page 3: Moving on from demolition to now discuss procurement of next work package which is the piling and whether the design of that is sufficiently complete to tender.
31	SMT	38	8-13	Emerging issue of movement on adjacent stakeholder building (33) means that could be a delay until mitigation measures in place, so questioning whether design compliance can still be submitted and the mitigation comes after in the detail – submit the compliance with a cloud around that section; Design remains an issue on the critical path because of tis relationship with procurement; Bullring works finally decided to be halted until everything is properly in place as there is confusion but float at the end, so trying to start early, on reflection, was not the best or necessary decision.
32	SMT	38	18	The issue with the stairs in the lift shaft gets closed out
33	SMT	38	21	New design issue emerges in relation to the safety pit and contractual position of who is doing the track design
34	SMT	38	26	Design issue with moving walkways that now go into package 5
35	G5	38	17-19	Discussion on packaging the design for procurement of piling
36	BB	42	4-5	Formal agreement on closure of contractual position around the compliance packages and specifically package 5 and hence disbursement of fee and difference with IFC drawings.
37	BB	42	9-11	Discuss the difficulties of getting compliance paperwork and project to the future about final submissions at handover and how we might use the protocol to incentivise this
38	SMT	42	14	Design packages 2 and 3 now submitted
39	SMT	42	29	We advise the board on the emerging issue of movement on 33 and impact on programme
40	SMT	42	30-31	Moving the walkway design into package 5 now has a knock on effect of delivering package five because some detail is to be done by the sub-contractor/supplier

Constructing Routine – Stage 4 – 3 Incidents

No	Mtg	Wk	Page	Incident
26.0	SMT	38	1-4	Discussion starts to move towards construction; status of procurement items, what are the final arrangements in the sub-contracts to start work; ensuring we review lessons learnt; moving to discuss pre-start check lists method statements and ITP's.
27.0	BB	42	12	Further confirmation of demolition of 20 Abchurch being the right decision from a business case perspective
28.0	SMT	42	11-13	Start to see enabling works completed and main works commence with scaffolding; Start to see the emergence of conflict between new construction people trying to do things that are different from what has been agreed by staff with project history; Start to espouse the use of the new protocol and the Operational Coordination group; reflect back on the difficulties we went through in January and where we are now with consents granted.

Consenting Routine ─ Stage 4 – 8 Incidents

No	Mtg	Wk	Page	Incident
45	SMT	38	30-32	Recognition that demolition is only a couple of weeks away and need to have all the conditions as set out in the TWA complied with, such as building monitoring; Discuss role of governance document COCP; Discuss relationship with pre-start checklist and procurement checklist to ensure everything is planned properly; Recognition that our reputation counts for a lot and we need to maintain that.
46	SMT	38	33-35	Recognition that tfL board is tomorrow; Discuss drop in session; Note that briefing notes are being prepared for people to advise what to do under the TWA, for example if a road needs closing. …" It will be a handy document so that you know what we can and can't do and what those constraints are in terms of the order"
47	G5	38	20-21	Discussion on the COCP (Code of construction practice) and how the need to be in place before work commences.
48	BB	42	3-4	Board discussing sign-ff of the S2WCN and reflection and recognition of its purpose in relation to the TWA; recognition that some key elements of design that are the result of legal agreements under the TWA are still outstanding.
49	SMT	42	4-5	Discussion on temporary site set up works in Arthur Street and what the TWA had constrained and the potential need for an off-site holding yard for materials, something that wasn't in the TWA.
50	SMT	42	12-13	Confirmation that certain conditions from the TWA have now been agreed as discharged, seen as good progress for progressing the works; Reflecting on some difficult time back in January but we can now see the benefits coming through. "So, just to say, you know, I think we all had a bit of a meeting in exec room, didn't we, back in January? Was it January, I think? We all threw our toys out of the pram, because we were fucking nowhere with it came to getting the conditions discharged on time. No doubt there are some to go. There seems to be an endless round of them, but, you know, well done. I mean, I think we've covered a lot of ground between construction and consents over the last couple of months."
51	SMT	42	29	Further discussion on implementing actions from TWA such as information and monitoring and implementing actions as set out in legal agreements with stakeholder.
52	SMT	42	33-35	Discussing panned away day and the role the consents team will play in the protocol and the away day in owning the stakeholder objectives.

Abstract Event - Stage 5 – Total 49 Incidents

Organising Routine – Stage 5 – 14 Incidents

No	Mtg	Wk	Page	Incident
40	SMT	46	1-5	Discussion around changes to the critical and how these have been managed and we use the example of the recent commercial meeting and new project exec as a way of understanding the need for client and contractor to get closer together through the use of the operational coordination meeting.
41	SMT	46	25-27	Discussion on pre-start works and relationship with external parties and consents and lack of interface between external parties and so again we espouse the use of the protocol as a way to improve performance.
42	SMT	46	35-36	Discussed interface with Tier 2 suppliers and reflected on discussions at the away day and how we need to continue to challenge 'traditional' behaviours of those joining the project.
43	G5	46	15-19	Discussion on work package management level and relationships between client and contractor, role of construction manager; Discuss how well this is all functioning and think about moving people around; Understanding of works information in the contract and how we share that knowledge.
44	G5	46	21-23	Discussion on schedule reporting compared to commercial reporting and need to get a consistent story and how this is all a part of embedding the new approach into practice.
45	G5	46	38-45	Discuss pre-start checklist -how developing this new process as a way of enacting the new protocol by ensuring everyone is included in the checklist and have been consulted.
46	SMT	50	21-24	Discuss a number of issues such as scaffolding over escalators, and letter to stakeholders and explain frustrations that the reasons these issues keep occurring is that we have not got the coordination group up and running; Discuss what meetings are currently ongoing and how these can be transformed into the coordination group. "I just want to make my opinions felt in this meeting that is, I think, we put a lot of faith into the management protocol, whether we're finished signing it off or not and written up the outcomes of the away day to some degree is a little bit by-the-by to my comments. Where's the operational coordination meeting? I want it up and running. In good faith we put that protocol together to try and put a structure in place that can focus on that day-to-day management. For whatever reason we haven't done it and we're reporting on all these issues, which much of the conversations we've had today, in my mind should be driven out of that meeting. Do people not want that meeting? Is it not right? Why aren't we doing it? It's an open question."
47	SMT	50	33	Focus on construction management team managing tier 2's and say how we want a shift towards problem solving and decision making at site level so that they are coming to this meeting discussing progress and explaining constraints that senior management need to deal with.
48	G5	50	24-34	Reflecting on what was a difficult SMT meeting day before; Our frustrations are that changes in behaviour are not yet

				flowing down as we wish and seem to be similar to before; quote… Reflect back on Selsdon Park and how newcomers are still struggling to understand our way of working – quote… Ariella as a new person can give her perspective; Suggest people don't understand the issue of money and so enforce individual statements of work for individual packages; We use certain examples to reinforce our argument (to ourselves?!); We discuss how there needs to be a move towards the use of intuition
				"We, as a senior team, are accountable to two organisations, and we're relying on a team of people to manage works, and the work's not being managed. The issues are not being managed. The warning signs have been there for a long time, I've never seen a programme that is full of negative delays. Every month we're losing a month, and none of the issues are really insurmountable."
				"We went away in November at a workshop, we spent weeks going through the thing, and John and Ian and others are sitting there going, 'I'm not quite too sure yet, no I'm not yet, you know."
49	BB	51	1-2	Introduction to new Bank Board with no Chairman this time!
50	BB	51	3-4	Discuss the away day and the reinforcement of the protocol.
51	BB	51	20-23	Discuss how things are progressing with the protocol, positive that admin of the contract and behaviours at senior management level; ongoing frustration with the operational coordination group; Discuss how we are going to start using the measures to help improve performance; All agree that we believe in the protocol and wouldn't do anything different,
				… "I think the protocol is there, the protocol is right. It's the right thing to do. You know, we've got good competent people there, we're administering the contract really well. We need to make sure we bind it together, because, you know, as critical issues come, it will put that structure under pressure…We need to make sure we're a really strong senior management unit to be able to cope with those things. I think the project exec and from today, the board, are showing that. It's the operational bit we really need to work on."
52	G5	53	21-24	Discussion on revisions to organogram, role of client inspectors on site, express our understanding of organising not just organisation so recognising it will always be in flex; Recognise my departure, Andy taking over while I'm away.
53	G5	53	45-47	I have opportunity to reflect, perhaps haven't been engaged as much as I should have; I have confidence that the structure will grow and develop ; Explain my biggest lesson is about the learning the project contract and requirements; Continuation of weekly commercial review important; Recognise external assurance from IIPAG will happen again.
				"I think you've got some challenges over the next couple of months in the bits of reorganisation that you've got to do. We need support to guide us through that. My overriding point is that if you can keep the cap on the money and the time and you've got that resilience through that organisational structure of the bank board, the project exec and the coordination group, then if you maintain that strong tie between those three, we'll get through it."

Governing Routine – Stage 5 – 2 Incidents

No	Mtg	Wk	Page	Incident
40	G5	50	20-22	Issue of TfL Milestone for package 4 of the design compliance has now been pushed out and this has been reported; Recognition that IIPAG will be coming back in and so we need to be able to position ourselves sensibly to respond to that review;
41	BB	51	14-18	Discuss the status of the tracker and a recognition that IIPAG are coming in and this is perhaps less about our performance but that external pressure on finances is going to be an important area of the review and we need to be prepared for that…; Discussion on how this will get managed with my impending departure; Further recognition that IIPAG are under pressure because of a new Mayor, and a recognition that although they didn't come in for the funding review, while this showed confidence in us, the political environment has changed. *" We're going to have IPAG coming in before the end of June. That's going to be a very sensitive thing to manage, with IPAG. Okay. We all need to be aware of that, as a project team. Not only are IPAG coming in, we are coming under a lot of pressure to save money."* *"M: Yes, I think IPAG are in a different position because of the change of mayor and all that kind of stuff. I think they're going to come in and look at it very differently to how they did before. I mean, when we went for funding in March, Gary, they didn't even come in. That's how much confidence they'd grown in us.* *M: Like you say, it's a new mayor now, and so, again, unfortunately we work in that political environment."*

Contracting Routine – Stage 5 – 3 Incidents

No	Mtg	Wk	Page	Incident
31	SMT	46	6	Recognition that the tracker needs updating as this has to be presented back to Bank Board regards progress, even though S2WCN has now been formally issued.
32	SMT	50	28-29	An honest exchange of which items are red, amber or green and need to be changed either in terms of progress and backward step, i.e. programme narrative, procurement schedule.
33	BB	51	18-21	Tracker is presented at the BB, although set up a temporary tool it is used beyond formal sign off as a way of report progress to the BB…; Issues remain around procurement schedule, narrative, design compliance, but recognised as timing issues not necessarily performance; Updating on the tracker is a way of summarising the actions now ongoing that we are in stage 2, almost as if it is summarising the enactment of the (re)created routines.
				"Okay, so we'll keep this going for, I suspect, at least another board, if not another two. I suppose generally, we've been through this as our two teams. Simon and I, and myself with Andy in a few areas, have been through this and we'd reached agreement on it. There hasn't perhaps been the level of progress that we would have perhaps anticipated, but there has been a bit of disruption over the last couple of periods. I think generally we're still working in the right direction. All the themes are being addressed. We perhaps just need to re-focus in a couple of areas."

Designing Routine – Stage 5 – 10 Incidents

No	Mtg	Wk	Page	Incident
41	SMT	46	8-9	IFC drawing and package 4 overlapping together on certain elements so construction can commence (bull ring)
42	SMT	46	11	Schedule starts to have more granularity around the procurement activities for future activities and enabling works (i.e. archaeology) start to close out so certainty starts to come into the programme in relation to design closure, procurement and start on site dates, despite package 5 and clouding discussed earlier.
43	SMT	46	17-24	Despite this design closure, the final submission of package four continues to be delayed on certain items such as M&E: This brings into question the way that closing out package 4 is being managed, relates to understanding who has been involved and so felt a low risk; discuss changed approach to package 5 which is to move it to separate change events rather than one package; Narrative to support the compliance submission discussed and how this is similar to the programme narrative for the S2WCN submission that hasn't yet been finished.
44	G5	46	All	Nothing here but an interesting discussion making sure the design is handed over to the construction team.
45	SMT	50	16-20	Submission of package 4 continues to be delayed; Lots of challenges around the assurances we have been given that have been proven to be false; This causes us to reflect on the way we use the schedule, the way the contracts were structured, we reflect on past experiences, particularly within the project on closing out concept design,
46	SMT	50	29-33	An issue arises regarding approvals of materials and so we can see the discussion now moving to dealing with specific site issues, but what remains common is who is involved, who had the authority to day those things and why isn't the contractor using their status as a D and B to instruct the specific materials.
47	G5	50	20-22	Discuss the resulting commercial position now the design has predominantly coming to a close, how we deal with the forthcoming external assurance review and how we deal with the fact that the milestone was missed and this is reported into the clients' main board.
48	BB	51	18-22	Update on the tracker with the stage 2 commencement notice showing how design compliance has moved to green as we are all now clear on the position forward although package 4 still not formally in.
49	G5	53	6-8	Discussion on IFC drawing now and final constructability review; concerns raise over passing the baton from design to construction doesn't seem to be happening the way we would want it to.
50	G5	53	28-32	Commercial discussion on the final packages and the role of people in getting them closed out

Constructing Routine – Stage 5 – 3 Incidents

No	Mtg	Wk	Page	Incident
29	G5	50	4-14	lengthy discussion on how we enact the consents and commitments that have now been granted, this is us enacting the new routines, this is getting the weekly newsletter out which is fine to agree at the time, but then 'how' do we do this exactly is the nature of this discussion, who it goes to, when, what information is in it etc, etc. An amicable discussion.
30	G5	50	18-20	Issues related to residual design change (temp cabins) that needs to happen as the demolition is a change, issues associated with the cost of this and the extent of the work.
31	SMT	50	34-36	commercial discussions on the next stage of the procurement for the works on the whole block; As things become more focused now we are in construction and time starts to speed up, there is need to be clearer and tidier on process for managing contractual change.

Consenting Routine – Stage 5 – 17 Incidents

No	Mtg	Wk	Page	Incident
53	SMT	46	5	Use the TWA as an example of how we managed change when dealing with new contractual issues that arise.
54	SMT	46	25-27	Challenging discussion on knowledge between construction team and consents team on what needs to 'actually' be done to discharge commitments because although they are in the programme, they knowledge has not yet fully flowed through to everyone and they are complex in places.
55	SMT	46	28-29	Discussion on how we communicate with stakeholders now that work is commencing;
56	SMT	46	30-32	Issue with ground movement with one stakeholder and here discusses the centrality of the consents team to help understand the legal boundaries as set out in the legal agreements under the TWA not just engineering and construction.
57	SMT	46	36-37	Discussion on particular stakeholder and status of legal agreement with them before work starts, particularly around timings.
58	G5	46	7-9	Issue with design for one of the stakeholders and the impact in relation to the legal agreement under the TWA.
59	G5	46	23-27	Discussion on pre-start checklist on the need for consents from the TWA to be a part of that. *"One of the things I wanted to raise was, there's a lot of items in here, and especially in relation to commitments, for instance, for the tunnelling work, because there is an awful lot of commitments, primarily at the start of 33 and then as we move through the works. Not all of those are going to be green, when we start, because obviously, some of those of commitments are a lot further down the line than the West End and we are building in all of the notification periods for each individual commitment into the checklist. Some of those, I think, it becomes almost like a programme reminder."*
60	G5	46	29-32	Specific discussion on commencing work in Arthur Street and the need to have the construction team understand the consents and separate legal agreements with stakeholders. *"I think, you know, not to overplay it, but the commitments in Arthur Street are really our biggest risk. So, we've got good relationships with them, but if we breach those agreements legally, we get on the end of some sort of litigation. Our order powers won't protect us because we have a legal agreement with the building owner. So, it's really important that the construction team understand and appreciate that these things are quite sacrosanct."*
61	SMT	50	4-6	Discussion on stakeholder interface in Arthur street that is a real challenge and understanding the legal agreements sit at the centre of that.
62	SMT	50	11-13	Discussion on commencing demolition and assurances that interface between construction team and consents team is being managed to avoid conflict with stakeholders; One particular stakeholder is emerging as challenging, whereas they were quiet during the TWA.
63	SMT	50	14-15	Interface issue between construction and consents with respect to road closure.

64	SMT	50	27	Stakeholder interface issue in respect of design and using engineering specialists involved in negotiations during the TWA as a way of managing this.
65	G5	50	4-14	Lengthy discussion on how we enact the commitment under the TWA to inform stakeholders of works about to happen; discuss content of the weekly newsletter; who accountable for it ; who we send it to; Clear that these decisions when written down seem straight forward but when enacted open up new issues that need dealing with that hadn't been thought of, such as do we send one internally to the station, do we email or post, to what extent of detail do we explain things to people?; Discuss helpline and who will run that and if what was in the contract is now practical or when to change from what we are doing now to the new system.
66	BB	50	15	Recognition that the full flow down of all the commitments from the TWA has still not been commercially closed out.
67	BB	51	11-14	Advise the BB on the emerging critical design issues that have been coming out which are complicated by the legal agreements that we have with the stakeholders from the TWA.
68	G5	53	15	Discuss issue of 24/7 working and what has been allowed for under the TWA.
69	G5	53	17	Ongoing issue with stakeholder to finalise design in relation to legal agreement under the TWA.

14 Appendix E – Information sheet

Research study information sheet

Introduction

This research study seeks to investigate how *'time'* influences organisational *'routines'* in project organisations. The purpose is to understand how and why a project organisation creates or recreates routines as it transitions from one stage of a life cycle to the next.

The study will interact with the participants to reflect on the findings during the data collection, so as to facilitate organisational learning and hence seek to enhance organisational capability.

This information sheet should be read in conjunction with the consent form and non-disclosure agreement.

Theoretical and practical problems

'Time' is a central feature of project organisations. Projects are discreet organisational units that are created with distinct boundaries of time to control capital investment initiatives, outside of the normal operation of the organisation. Human subjects, referred to as *'agents',* and non-human objects, referred to as '*artefacts*', are brought together in *'transactional'* arrangements to create this new organisational unit and work *'interdependently'* together to produce the project output within the predefined 'stage' and 'completion' time boundaries.

'Organisational routines' are a central feature of organisations. Organisations are said to become capable through the evolution of routines. Organisational routines are defined as 'repetitive, recognisable patterns of interdependent actions, carried out by multiple participants. Through repeated interaction, routine (re)creation reduces agents perceived uncertainty. Projects are characterised by *'newness'* as '*agents'* and '*artefacts'* interact with each other to manage perceived uncertainty. This newness suggests a lack of repeated interaction and recognisable patterns of action. Temporary organisations could therefore be characterised by high levels of *'organisational uncertainty'* at the start of each stage (transition), making them potentially unstable structures until routines are (re)created and levels of perceived uncertainty reduced.

This *'organisational uncertainty'* can be split into two types: 'transactional uncertainty' - the governance of contractual arrangements between *'agents'*, and 'interdependence uncertainty', the coordination of *'agents'* and '*artefacts*'.

Research question

The research question is:

"How and why are organisational routines (re)created in temporary inter-organisational structures?"

By seeking to answer this research question, the study will seek to understand how project participants think about five key theoretical features of organisation, namely:

Time: how participants think of the past, present and future and the influence of predefined time limits such as the milestone for the commencement of stage 2;

Understanding: how participants work together to create a shared understanding of the work needed to be done to be able to transition from stage 1 to stage 2;

Evolution: how working as a group together and the tasks done are different from the previous group they worked with and tasks they did, therefore how they need to manage an information gap;

Transition: how the transition itself makes us think about the relationships between our work to achieve as successful transition from stage 1 to stage 2;

Embeddedness: how the relationship with the participants parent organization influences the work they do to transition from stage 1 to stage 2.

Data Collection

To collect this data the study aims to observe how the management units of the Bank Station Capacity Upgrade project, as defined in the Alliance Protocol (G5, Bank Board, SMT, ADM, ADT) manage the transition from detailed design through to construction through the creation or recreation of organisational routines.

The study will look at how team members manage their perceived uncertainty, with a specific focus on time, in developing a routine (or routines) to manage the transition from detailed design into construction.

The study will be split into three phases.

Phase 1 will be prior to the formal governance activities for stage 2 approval;

Phase 2 will be during the formal governance activities for stage 2 approval;

Phase 3 will be post the formal governance activities following approval of stage 2.

The study will collect data in the following manner:

Individual interviews at each of the three phases of the study;

Recording of G5, Bank Board, SMT, ADM meetings;

Recording of any other ad-hoc meetings deemed appropriate for identifying the creation or recreation of organisational routines;

Collection of archival documentation (artefacts) involved in the creation and recreation of routines.

Relevant timeframe data to identify 'temporal' relationships between participants (for example, do those who have been on the project for longer find it easier to get into a routine of working together).

Data Analysis

The analysis of the data will be via the following methods:

Identification of a 'shared view' (or otherwise) of what the 'organisational routine' of transition looks like;

Identification of 'incidents' and 'events' in the performance of the transition that will be strung together into a narrative to compare with the original shared view;

Coding of words and phrases to be used in the development of the five concepts of time, understanding, evolution, transition and embeddedness, as discussed above;

Some quantitative project performance data, derived from period reports, will be used to demonstrate any trends in incidents or events.

Reflective and Interactive Learning

The aim will be to undertake part of this analysis at the end of each of the 3 phases so that it can be shared with and informed back to the study participants. Likewise the responses from the participants in this feedback process will also be captured and used in future analysis. In this way, the theoretical development of the concepts and the practical performance and capability of the organisation are enhanced in unison as the study moves over time.

Physical age of the individual;	< 20 Years	
	21 - 30	
	31 - 40	
	41 - 50	
	51 - 60	
	> 61 Years	
How long they have been involved in the project	< 1 year	
	2 - 3 Years	
	3 – 4 Years	
	> 5 Years	
How long they have been a member of the organisational entity being observed;	< 1 year	
	2 - 3 Years	
	3 – 4 Years	
	> 5 Years	
How long they have been working within their industry/discipline	< 5 years	
	6-10 years	
	11-15 years	
	16-20 years	
	21-25 years	
	> 25 years	
How long do they plan to remain working on the project (case study)	< 1 year	
	2 - 3 Years	
	3 – 4 Years	
	> 5 Years	

15 Appendix F – Consent form

Consent and non-disclosure agreement

Thank you for agreeing to take part in this research. Please sign this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Project: Organisational Routines in Temporary Organisations

This study has been approved by the UCL Research Ethics Committee

If you have any questions arising from the Information Sheet or explanation already given to you, please ask me before you to decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time. UCL will also be bound by this consent form with regards to your personal data.

Researchers Statement

I confirm that:

- Your personal identity will not be exposed. Full anonymity will be maintained and I will not identify you personally in any publications or presentations;

- Your name will not appear anywhere and no one except myself will know about your specific answers. If necessary, and for academic purposes only, I will assign an anonymous reference to any quotations used within the text, and only I will have the key to indicate which reference belongs to which participant;

- Any information provided as a part of the study will be used for the sole purpose of the study and future associated publications, it will not be shared with your employing organisation for anything other than the reasons of the study;

- The Bank Station Capacity Upgrade Project (the project), London Underground (the client) and Dragados (the contractor) will be named as organisations being researched. All other organisations will be referred to as 'supply chain' or 'stakeholder';

- Commercial and contractual confidentiality will be maintained. Where it benefits the support of the research, non-sensitive commercial or contractual information will be used with the express permission of London Underground and/or Dragados unless the information would be readily available within the public domain;

Participant's Statement

I,

- have read the notes written above and the Information Sheet, and understand what the study involves.

- understand that my participation will be tape recorded and I consent to use of this material as part of the study.

- understand that if I decide at any time that I no longer wish to take part in this project, I can notify the researchers involved and withdraw immediately. The information you have given will be deleted. Where you have taken part in recordings of group meetings then your comments will be removed from the text but not the recording. In the case, the recording will not be used for any purpose other then the preparation of the transcript, from which your contribution will be removed.

- agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.

- I understand that the information I have submitted will be published as part of a PhD, a report for use by the participating organisations and future academic or industry related publications.

Signed and dated by researcher

....

Signed and dated by participant

....

16 Appendix G – First manual coding

Phase 1 Interviews – Key Themes

I have listened to the interviews with Bank Board, G5 and SMT (current structure – those at the workshop). I have not yet completed the full analysis of all those interviews, nor have I listened to all the interviews, as I have interviewed the majority of the people who made up the original SMT.

I focused specifically on questions two and three. I made hand written notes of the key points discussed under these 2 questions and then read through my notes to generate some key themes that I could collate comments within. The themes, six in total, are practical rather than theoretical, which is a separate exercise and although I have made an early start to theoretically code the same set of notes, this is more relevant to me as an academic and not yet sufficiently developed for this note.

I am not sure if I would yet call the six themes 'routines', which I can only do once I have identified repeatable and recognisable patterns of action. However, the following is a summary so far, which provides a sufficiently strong representation to inform phase 2 of the interviews and assist in building on the work done at the workshop on the 18th and 19th November. It is not an absolute final position and remains open to further reflection and sensemaking.

The six themes are – commercial, planning, organisation, governance, procurement, design to construction. They are discussed below in no particular order of importance or preference.

Commercial

Forecasting – important that it is timely for both internal and external use to understand gaps and issues. This is only going to increase as we move into construction. QS's traditionally work in the detail but the project needs a more strategic view.

Contract – the contract frames what we do, not the other way round; clear obligations; clear control of change; clarity on stage 2 works commencement notice to avoid uncertainty.

Outstanding issues – to transition cleanly then outstanding commercial issues need closure to remove uncertainty.

Control – Too much work going on deep in the detail; lack of a cost control system means we are lost in the detail; forecasts from external parties which are outside of our control are creating uncertainty.

Planning

Schedule development – one of the main uncertainties lie in the development of the schedule; its very unsettled, fuzzy, uncertain and undecided, struggling to lock down sequences of work.

Nature of time – time should always come first, it should be the first question we ask; we should view time at 2 levels, macro (milestones, main critical paths) and micro (specific activity durations) and we need to understand the relationship between these 2 to performance; we do non-standard work and therefore knowledge of time needed is always incomplete until we are at the 'work face'.

Planning function – project controls team have the opportunity to play a central role, through impartiality/neutrality in understanding performance – the balance between micro/macro

Constraint management – undertaking scenario analysis (or some such similar process) can bring disparate groups together; challenge real v's perceived constraints; to push the boundaries of constraints and gain consensus for opportunities going forward.

Governance

Purpose of stage gate – "gate determines where you are in time in relation to steps [from design to construction] not the other way round"; this is not the first transition we have done as a project team; many of the activities are routine [we've done them before] and happen in the flow of time, not a start finish; plans need updating to reflect the change.

Confidence – need to convince reviewers of control, both of past, now and future; need to manage perceptions of control with fluidity of movement of items within overall budget/scope; manage perceptions of control of items that are inside or outside our control.

Process uncertainty v process certainty – there is a new entrant [Dragados] where processes are novel and developing, working within a regulated industry where processes are more embedded and certain (but see below); how much does tacit knowledge for a part of the 'routine'? how do we measure performance in this environment.

Transparency – transparency of information is needed to remove boundaries; better knowledge sharing needed across disciplines – communicating change control efficiently and effectively; boundaries need to be created for clear roles and responsibilities and decision making.

Procurement

Transition link – procurement is the spine of activities between stages; it provides the foci for linking design into construction; time is critical – timely preparation of packages

Design to reality – greater definition of what is in/out of scope; how do all the work packages hang together; decision making on what goes into the packages; sharing information and levels of understanding in and between packages;

Performance – how will supply chain performance be managed?

Organisation

People churn – from a design to a construction organisation where some roles will remain relatively static but others not; there will be a large churn of staff that need to convert the design into reality; what are their roles and responsibilities? How can I develop my team until I can see the 'complete picture' of the whole team?

C305 – a large number of these people will come from C305; it's a different project culturally; our behaviours have become both embodied and embedded through the alliance approach; they have in some ways emerged and evolved naturally over time; how do we transition others in to our ways of thinking? How do we induct them over time?

Capability to react – design to construction means no more tinkering; need to mobilise and integrate the supply chain; interfaces and interrelationships will be complex because we will never get an absolute on time – too many variables; info only becomes available 'at the work face'; do we have the capability to react?

From design to construction

Plan to reality – how well are we tracking and controlling design change, not just through process but communication; people become more focused as dates get closer – things become more real as the date brings focus; through our proximity to each other we can understand each others needs.

Deliverables – reality of deliverables brings boundaries into focus; are we scheduling these out and understanding them – applying the 80/20 rule – let's move on and work out the 20 in time; Developing safe systems of work – temporary works, utilities – critical elements in moving through the transition.

Tier 2's – they are here but do we fully understand what they are doing; are their roles and responsibilities locked down? Do we properly understand the boundaries and have we written these down; Have we yet identified the leaders within these groups.

Time to decide – need to use time available wisely, it isn't normally available; don't lock down too early, don't pressure people to lock down to early; understand what is needed now but give flexibility for later decisions based on clearer information.