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Practices of isolation: The shaping of project autonomy in innovation projects

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ABSTRACT

A project's autonomy, the degree to which a project can evolve without constant interference from the parent organization, is a key feature of innovation projects. The literature treats autonomy as a passive phenomenon and underestimates how projects as temporary organizations interact with more permanent forms of organizations. A dynamic and contextually sensitive understanding of project autonomy is valuable; autonomy can change over the course of the project's lifecycle and evolve into extreme isolation. We show how autonomy is shaped through practices of isolation and how this influences project outcomes. Two innovation projects were studied through qualitative-interpretive methods and we analyzed symbolic, discursive and spatial practices of isolation. These practices facilitate the exploration of innovations but limit the transmission of these innovations to the parent organization. We contribute to the literature on temporary organizations and project-to-parent integration by illustrating and theorizing the role of practices of isolation in this process.

1. Introduction

Theorizing the relation between temporary and permanent organizations is a key challenge in the (project) management literature (Bakker, DeFillipi & Sydow, 2016; Lundin & Hällgren, 2014; Sydow & Braun, 2018). While the permanent organization refers to the structure in which a firm, company or other type of organization is organized, the temporary organization refers to 'a temporally bounded group of interdependent organizational actors, formed to complete a complex task' (Burke and Morley, 20161237). One of the key questions of temporary organizations concerns the right level of project-to-parent integration versus project-autonomy (Bakker et al., 2016). Scholars suggest that the right level of integration and autonomy depends on the goal of the project and its context (Johansson, Löfström & Ohlsson, 2007; Martinsuo & Lehtonen, 2009). This discussion on integration/autonomy is important as temporary organizations are quickly dissolved after closure and members are assigned to new tasks, teams and deadlines, while parent organizations want to successfully integrate the developed knowledge, products or services (Stjerne & Svejenova, 2016; Swan, Scarbrough & Newell, 2010; Sydow, Lindkvist & DeFillippi, 2004).

Frequently, parent organizations use projects to deliver innovation (Criscuolo, Salter & Ter Wal, 2013; Lundin & Soderholm, 1995). Such innovation projects are temporary, task-focused organizations that define and develop new products, services or business models (Gemunden, Lehner & Kock, 2018). Previous research suggests that these projects must operate in relative autonomy to be able to achieve project goals and, more importantly, to fulfill the parent organizational aims of innovating (e.g. Davies, MacAulay, DeBarro & Thurston, 2014; Lundin et al., 2015; Prado & Sapsed, 2016). Relative autonomy helps to establish the right conditions under which innovation is more likely to happen (Gann & Salter, 2000; van Marrewijk, 2007). Recent research has studied this interesting co-existence of integration and autonomy in innovation projects (Vuorinen & Martinsuo, 2018), and it is increasingly recognized there is an important gap in understanding the dynamics around how autonomy is developed throughout a project's lifecycle and how this is shaped by notions of isolation (e.g. Lehtonen & Martinsuo, 2009; Martinsuo & Lehtonen, 2009; Näsänen & Vanharanta, 2016; Turkulainen, Ruuska, Brady & Arrto, 2015).

In this paper we focus on practices of isolation to study how project autonomy is shaped, with the role of the parent organization gradually

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evolving into a marginal position vis-à-vis the temporary organization (Martinsuo & Lehtonen, 2009). According to the Macquarie Dictionary (1992: 933) isolation means 'to set or place apart' and to 'separate so as to be alone' but also, and interesting for our discussion, to 'track down; discover'. In order to discover and innovate, project managers may choose strategies that help isolate the temporary from the permanent organization (e.g. Turkulainen et al., 2015), for instance by purposefully detaching and reattaching innovation teams for the duration of a project (Johansson et al., 2007). Van Marrewijk (2017) shows how granted autonomy of a high-speed train megaproject slowly drifted into an ungranted form of spatial and social isolation, much to the dismay of the parent organization. While isolation thus seems a recurring theme for innovation projects, we do not know how it occurs and relates to the integration and autonomy of temporary organizations (Lehtonen & Martinsuo, 2009; Näsänen & Vanharanta, 2016; Vuorinen & Martinsuo, 2018). A more nuanced understanding of the process of autonomy and isolation provides insights into the interaction between temporary and permanent organizations and the integration of projects into parent organization, as has been asked for by recent studies (Bakker et al., 2016; Geraldi & Söderlund, 2018; Sydow & Braun, 2018; Turkulainen et al., 2015; Vuorinen & Martinsuo, 2018).

This paper focuses on the question: *how is autonomy constituted in specific practices of isolation in innovation projects and how are these practices related to project outcomes?* Project outcomes are understood as fulfilling the project's primary task of developing innovative products, practices or services, as well as the secondary goal of transferring these innovations to the parent organization (e.g. Johansson et al., 2007). Furthermore, we understand project isolation as local and situated sets of practices (Blomquist, Hällgren, Nillson & Söderholm, 2010). To answer the research question, we draw on the data of two qualitative case studies: Rail Nerve Center and Beating Heart. For both projects, creating and institutionalizing innovative forms of inter-organizational collaboration was an important goal. One project started 'embedded' in the parent organization while the other already started 'isolated' (see Martinsuo & Lehtonen, 2009). Contrasting cases allow for the discovery of similarities and differences in the phenomenon studied (Siggelkow, 2007). Our findings identify (1) symbolic, (2) discursive and (3) spatial practices that isolated both projects from their parent organization, regardless of their starting position. While these interrelated isolation practices positively influenced the exploration of new collaborative practices, they hindered the exploitation and sharing of lessons learned and the integration of innovations into the parent organizations.

This study contributes to the literature on temporary organizations (Lundin & Hällgren, 2014 Geraldi & Söderlund, 2018; Sydow & Braun, 2018) by addressing the issue of embeddedness of projects within their parent organizations (Burke & Morley, 2016; Sydow et al., 2004) through an in-depth understanding of how autonomy develops over time. Furthermore, the study contributes to the project management literature focusing on the integration of projects in parent organizations (Davies et al., 2014; Gemunden, Salomo & Krieger, 2005; Lundin et al., 2015; Martinsuo & Lehtonen, 2009; Prado & Sapsed, 2016) by providing a rich and empirically grounded analysis of practices of project isolation. We illustrate and theorize how isolation occurs and how this relates to the integration and autonomy of temporary organizations (Lehtonen & Martinsuo, 2009; Näsänen & Vanharanta, 2016; Vuorinen & Martinsuo, 2018). Our paper thus advances our understanding of how temporary and permanent organizations interact, highlighting how project autonomy exists dynamically on a continuum between complete integration and complete isolation, and how practices of isolation relate to how projects deliver innovations. We thereby respond to the call from Martinsuo and Lehtonen (2009) for more research on the mechanisms and effects of shaping project autonomy in relation to parent organizations and their networks. Finally, we corroborate earlier findings that innovations through projects are difficult (Bakker, 2010), describing the internal and external triggers for isolation of projects with a strong innovation focus.

Below, we first review the debate on temporary versus permanent organizations, the relation between project-to-parent integration and autonomy, and the relation between autonomy and isolation. We then explain our research approach, methodology and analysis, and present our findings. In the discussion we reflect on the findings in light of theory on project autonomy. We conclude the paper by explicating our theoretical contributions and practical implications for autonomy in the context of projects delivering innovations within temporary organizational settings.

2. Theoretical background

2.1. Temporary and permanent organizations

Over the past decade there has been a growing interest in the theorization of temporary organizations (Bakker, 2010; Bakker et al., 2016; Bechky, 2006; Burke & Morley, 2016; Grabher, 2002, 2004; Lundin et al., 2015; Sydow & Braun, 2018). Temporary organizations comprise project- or event-specific entities; they are constituted either to deliver a temporally defined project or to deal with an event or occurrence, after which they cease to be (Grabher, 2002). This growing interest has resulted in a diverse body of studies, including a focus on temporality in theatrical production (Goodman & Goodman, 1976); film and television production (Bechky, 2006; DeFillippi & Arthur, 1998); engineering projects (Wilemon, 1973) and project management (Lundin & Söderholm, 1995; Lundin & Steinthórsson, 2003; Sydow & Braun, 2018; Winch, 2014).

Explorations of autonomy address a fundamental issue in theorizing the relation between temporary and permanent organizations (Bakker, 2010; Lundin & Hällgren, 2014; Lundin & Söderholm, 1995), namely to what extent a temporary organization should be decoupled from its parent organization (Burke & Morley, 2016). The autonomy of temporary organizations can be advantageous as it offers opportunities for creating innovations and new knowledge (Grabher, 2004; Lenfle & Söderlund, 2019). However, the implementation of innovations or new knowledge from temporary to parent organization is often fraught with difficulties, as the former is more focused on realizing immediate goals while routinely learning from and implementing them requires broader organizational goals (Sydow et al., 2004). Previous work suggests that the conceptual boundaries between temporary and permanent may be less fixed than usually thought. In her study on film sets, for instance, Bechky (2006) argues that, although film projects are often seen as ephemeral and unstable, they are in fact organized around a structured role system. Moreover, practices in projects may also appear to be stable while they are simultaneously fluid; boundaries and competencies, for instance, are continuously negotiated in situ by project members (Lieftink, Smits & Lauche, 2019). The often unique and temporary characteristics of projects makes that the identification of roles and task within projects and between project and parent organization can be conflict-ridden and negotiated on a day to day basis (van Marrewijk, Ybema, Smits, Clegg & Pitsis, 2016). This discussion has important implications for problematizing project-to-parent integration.

2.2. Project-to-parent integration versus autonomy

Integration is 'the process of achieving unity of effort among the various subsystems in the accomplishment of the organization's tasks' (Lawrence & Lorsch, 1967: 4), for instance between project and parent organization. Project autonomy refers to 'the degree to which the project is allowed to evolve without constant reporting to, and receiving input from, the parent organization' (Martinsuo & Lehtonen, 2009: 262). Autonomy thus deals with the uniqueness and temporary nature of a project, but also to what extent it is connected and remains embedded in an organization. This issue has been a key concern for literature on integration and is explored, for instance, in multi-project contexts (Dietrich, 2006), project-to-project and project-to-organization

interfaces (Turkulainen et al., 2015) or entire multi-project change programs (Vuorinen & Martinsuo, 2018). While it is generally assumed that integration is good for project outcomes (e.g. Gemunden et al., 2005; Lehtonen & Martinsuo, 2009; Turkulainen et al., 2015), research shows mixed results when studying the level of integration and project success. Ledwith and Coughlan (2005), for instance, studied sixty New Product Development (NPD) projects and concluded that greater involvement of external stakeholders did not lead to greater project success. Dietrich (2006) has argued that informal integration mechanisms are as essential as formal attempts for integration, whereas Hoegl and Parboteeah (2006) found that external influence from management and the permanent organization impacts the performance of project teams often negatively.

Many of these studies have suggested that autonomy is also crucial for project success. In relation to a project's environment, Martinsuo and Lehtonen (2009) distinguish four types of project autonomy: (1) isolation (marginal in both network and parent), (2) networked (central in network, marginal in parent), (3) privileged (central in parent, marginal in network) and (4) embedded (central in both network and parent). Gemunden et al. (2005), in a similar vein, identified four dimensions of project autonomy: (1) goal-defining autonomy, in which project members have the authority to set project goals; (2) structural autonomy, in which a project's social identity forms a boundary between the project and other social systems; (3) resource autonomy, namely the degree to which a project has its own resources to complete project goals; and (4) social/locational autonomy, in which project members work in close proximity to each other for the duration of a project. Interestingly, their extensive survey among 104 innovative projects shows that none of these dimensions directly relate to project success, except for locational autonomy or the co-location of the temporary and permanent organization.

These mixed findings lead to the observation that integration and autonomy are not mutually exclusive but, in fact, co-exist (Lehtonen & Martinsuo, 2009). This also shows why recent studies on integration and autonomy discuss this explicitly in the context of the temporary-permanent interface of projects (e.g. Näsänen & Vanharanta, 2016; Vuorinen & Martinsuo, 2018), as this takes stock of the uniqueness of projects but also of problems related to their temporariness. It thus questions how boundaries between temporary and permanent organizations are managed and how this is contingent on contextual factors and the project's lifecycle. So, while it is assumed that project autonomy is usually granted by the organization (Gerwin & Moffat, 1997) and carefully managed until it is terminated when the project ends (Tatikonda & Rosenthal, 2000), these studies point our attention to the fact that different integration and autonomy mechanisms may be necessary during different phases of a project. In other words, integration *and* autonomy are processes that are both 'created, maintained, and purposefully altered' (Martinsuo & Lehtonen, 2009: 275). In Table 1 we have summarized the key studies on project integration and autonomy. We selected recent, high-impact empirical studies that had project autonomy and/or integration as a primary focus. As can be seen, there is an emerging appreciation for regarding autonomy as existing on a continuum with integration and isolation at both ends of the spectrum. While most studies have discussed integration mechanisms on this spectrum, they have hinted at the potential importance of isolative activities without explicating what this might entail.

2.3. Project isolation: the 'other end' of integration

The isolation of project teams is often observed in the context of radically innovative, politically sensitive or controversial projects (Criscuolo et al., 2013; Kidder, 1981). In a well-known example, the U.S. government Manhattan Project (1942–45) produced the first nuclear weapons in complete isolation. In a similar vein, in 1987 Swedish firm Saab began a top-secret V8 engine development project, with a very limited number of engineers locked up in a small room in the office building's basement to maximize security. The project secretly developed and tested a revolutionary V8 engine, but when it was presented at Saab headquarters two years later, the project engineers were highly disappointed as the project was terminated.[1] These contexts appear to contribute to the gradual isolation of projects and create strong bonds and a sense of collectivity (Costas & Grey, 2014; Courpasson & Younes, 2017). While the motivations of project members engaged in such 'bootlegging' activities may be benign and can indeed contribute to organizational goals (Criscuolo et al., 2013), the extent to which innovations will be incorporated into the permanent organization once a project is terminated is unknown.

It has been suggested that for radical innovations isolation is necessary and that organizations, ideally, can purposefully detach and reattach innovation teams for the duration of a project (Johansson et al., 2007). Security and aerospace company Lockheed Martin, for instance, has for decades organized a more radical innovation approach through 'skunk works', which are 'small empowered teams create[ing] powerful solutions'.[2] Likewise, Kidder (1981) describes how a team of computer engineers at Data General was explicitly isolated from existing organizational structures in creating a new and competitive computer. While this suggests that isolation can potentially be managed through project management techniques (e.g. Tatikonda & Rosenthal, 2000), for instance by granting and withdrawing team autonomy (Gerwin & Moffat, 1997), it has little to say about how and why isolation in teams is created.

Whereas both project integration and autonomy are considered valuable for achieving project goals, project isolation is fraught with difficulties (Swan et al., 2010) and has a substantial effect on project outcomes (Criscuolo et al., 2013; Gemunden et al., 2005). Moreover, while isolation can be planned for and guarded during specific phases (Lundin & Soderholm, 1995), we understand project isolation as a potential throughout the project lifecycle. We define project isolation as the process of developing autonomy to such an extent that the roles of the parent organization become marginal while, simultaneously, the project becomes increasingly invisible for the parent organization. Isolation, as we see it, is a more insidious expression of autonomy, purposefully achieved and created by the project team or accidentally emerging throughout the projects' lifecycle.

3. Methods

To understand how project isolation occurs in the search for the right level of integration/autonomy of temporary organizations designed to innovate, we studied two projects in which innovation was a key concern. 'Rail Nerve Center' and 'Beating Heart' are two projects that operated in a sensitive interorganizational field where the eventual outcome was regarded controversial. Rail Nerve Center is a project between organizations in the Dutch railway network and aimed at creating a national coordination center. This collaboration was controversial in light of the tumultuous recent history of the railways; innovations in the network became immediately politicized. For this reason, the project team developed their innovations for a large part 'underground'. Beating Heart is a city development project in a large Dutch municipality with a key goal of developing innovative ways of collaboration in the setting of public-private partnerships. A strategy of transparency was chosen so that innovations could become integrated within the municipality with greater ease. Below, we explain first how we organized data collection for both individual studies after which we explain how we compared data from the two projects in our analysis.

[1] http://saabisti.fi/saab-v8-engine-the-complete-story/#.XGpoTfZFw2w

[2] https://www.lockheedmartin.com/en-us/who-we-are/business-areas/aeronautics/skunkworks.html

Table 1
Summary of key empirical studies on project autonomy and integration.

Publication	Empirical context	Theoretical interest	Methods used	Key insights on integration/autonomy
Gemunden et al. (2005)	Highly innovative NPD projects (N = 104)	Autonomy as a social system and how it is related to innovation success	Survey	Identification of different types of autonomy; some relate to higher innovativeness and others not; only locational autonomy (e.g. co-location) relates to success
Ledwith and Coughlan (2005)	Electronic firms in NPD (N = 60)	Collaboration and networking between NPD project and external organizations on NPD success	Eight questionnaires during interviews with manager responsible for NPD in the firm	For most of the projects studied, involvement of external organizations did not lead to NPD success; small firms usually operated in a more isolated matter
Dietrich (2006)	Multiproject contexts (N = 4)	Contingency thinking to extend work on integration in permanent organizations and single project context	Inductive, multiple case-study; interviews, questionnaire, archival materials	Informal integration mechanisms are essential; proper mechanism is contingent on complexity and uncertainty of program; future studies should look into the different integration mechanisms during program's lifecycle
Hoegl and Parboteeah (2006)	Software development teams in four German companies (N = 145)	Relation between team autonomy in innovative projects and performance	Fully standardized questionnaire	External influence from management and the larger organization negatively impacts team performance; team autonomy and equality within teams regarding decision-making positively impacts performance
Johansson et al. (2007)	Development projects and relations with the permanent organizations (N = 2)	A relational model of development work with projects as a matter of detachment and re-attachment to the permanent organization	Case study research; interviews with project participants and written documentation	Development projects as an organization concept is paradoxical: innovative projects are usually isolated and more autonomous and inhibit implementation whereas projects that are more integrated in the permanent organization have less potential for radical change
Martinsuo and Lehtonen (2009)	Stakeholder environment in service development projects (N = 11)	Project autonomy and organizational enablers and barriers to autonomy	Embedded case-study; interviews with key informants in project and parent organizations	Project autonomy and stakeholder environment are in constant interplay; autonomy is context-dependent and depends on how autonomy is enabled and/or constrained by parent organization; research needed to study the dynamics of autonomy throughout projects' lifecycle
Lehtonen and Martinsuo (2009)	Change programs with multiple projects (N = 2)	The co-occurrence of integration and isolation in change programs as a matter of boundary management	Qualitative, inductive case study; interviews and document analysis	Program-parent integration happens through several mechanisms; isolation co-exists with and complements integration; more research needed on the different forms and mechanisms of isolation
Turkulainen et al. (2015)	Project-to-project and project-to-organization interfaces of global operations expansion program (N = 1)	Organizations as information processing systems implementing different integration mechanisms	Longitudinal single embedded-unit case study; semi-structured interviews and documents	Different interfaces are managed differently via personal, impersonal and group modes; boundary management and isolation activities complement our understanding of how integration is managed and should be further looked at
Näsänen and Vanharanta (2016)	Meetings of temporary program management group (N = 9 meetings)	Social and discursive construction of agency to manage the boundary between temporary and permanent organization	Qualitative study with specific focus on discourse analysis	Change program groups construct agency through discursive processes, thereby isolating themselves from permanent organization; isolation can be used to withdraw from operational responsibility or integration; more research needed on project members' sensemaking of boundary between temporary/permanent
Vuorinen and Martinsuo (2018)	Program integration in multi-project change programs (N = 2)	Agency theory; program integration and the negotiation of the temporary/permanent boundary	Qualitative multiple case-study; semi-structured interviews	Program managers exercise agency in program integration at temporary/permanent interface; different phases in the lifecycle require different integration mechanisms; autonomy/isolation plays an important role

3.1. Data collection

For this paper we draw on the data of two separate research projects. For both studies our initial focus was to gain an in-depth understanding of how innovations are developed through the temporary settings of projects and how, subsequently, these innovations become integrated with the permanent organization.

Rail Nerve Center. Data is drawn from an ethnographic study conducted by the first author on interorganizational collaboration in Dutch railway and traffic control centers. The Rail Nerve Center, opened in 2010, is the national coordination center where the major railway organizations are co-located and collaborate on a 24/7 basis to prevent and manage disruptions. For the larger study, the researcher conducted almost 900 h of observations and held semi-structured interviews with 28 participants. During the fieldwork, the researcher became interested in how employees talked about the emergence and history of the Rail Nerve Center. They would often share stories in which it was emphasized how the first ideas of a national control room were met with suspicion by organizational members and how, as a consequence, the initial project team developed the rough contours of it in secrecy.

To examine this into greater detail, the fieldworker drew on archival material that documented the different phases of the project and he used snowballing techniques to get in touch with key players involved in the innovation project. He was able to conduct an additional seven interviews with project team members, and the current paper reports on this data set (see Table 2). It may seem a small sample on which to build theory, but the project team itself was also small consisting only of operational experts. Interviewees were asked to reconstruct their story of the innovation project from idea to execution. Specifically, questions were asked about the innovativeness of the project, how this was managed, and how project members aimed to integrate this innovation from the temporary to the permanent setting of the organizations (see Appendix A for the interview guide). The interviews were held in Dutch, with an average duration of 90 min, and they were recorded and transcribed.

Table 2
Interviewees in the two cases.

No.	Organization	Position	Project
1	Project team	External consultant A	Rail Nerve Center
2	Project team	External consultant B	Rail Nerve Center
3	Project team	Project manager	Rail Nerve Center
4	ProRail Traffic Control	Traffic control advisor for project team	Rail Nerve Center
5	ProRail Traffic Control	Initiator of Rail Nerve Center and advisor	Rail Nerve Center
6	Rail Nerve Center	National rail coordinator	Rail Nerve Center
7	Rail Nerve Center	Functional manager	Rail Nerve Center
8	Municipality	Head of commissioning	Beating Heart
9	Municipality	Head of project management office	Beating Heart
10	Municipality	Head of area exploitation	Beating Heart
11	Municipality	Organizational advisor	Beating Heart
12	Project team	Project manager A	Beating Heart
13	Project team	Project manager B	Beating Heart
14	Project team	Consultant area exploitation	Beating Heart
15	Project team	Legal counselor A	Beating Heart
16	Project team	Legal counselor B	Beating Heart
17	Project team	Consultant internal organization	Beating Heart

Without having interviewed all of the key players (some had already moved to other organizations or were not available), theoretical saturation was still reached; the original sample population was small, showed a high level of homogeneity and was organized around a shared task so that the quality rather than quantity of the data became the value of the study (see Mason, 2010).

Beating Heart. The authors of this article conducted a study on innovative interorganizational practices in city development projects in a large municipality in the Netherlands. The main goal of the research was to understand how innovations are developed in projects where different parties from the public and private sector collaborate. The municipality recognized that innovations, once completed and delivered, were often hard to integrate within the permanent organization and institutionalize them. We studied a total of three city development projects, but for this paper we only focus on Beating Heart, as it was the first project in which the municipality attempted to develop innovate ways of collaboration on such a large scale. Moreover, during the analysis of our findings we found that project autonomy appeared as particularly important for this project team due to the fact that the tendering phase was considered to be sensitive (we explain this in greater detail in the findings). For these reasons, but also because the initial starting point of Beating Heart (embedded autonomy) contrasted with that of Rail Nerve Center (isolated autonomy), we decided to focus on this innovation project specifically.

We started by doing desk research and reading internal and external evaluation reports as well as other available documentation such as project plans, which we complemented with ten in-depth interviews (see Table 2). Through purposive sampling we assured to cover the key participants and main roles of people involved in the project, and this also let us assure to target the right people to answer our questions. Like Rail Nerve Center, Beating Heart was a high-profile project, so team members were usually those with a lot of professional expertise. Our sample covers both employees from the permanent organization and the temporary project team. The 60- to 90-min interviews were held in Dutch and, with the interviewees' permission, recorded and transcribed verbatim (see Appendix A for the interview guide). For both studies, the quotes used in the final paper were translated into English by the authors. To assure reliability we organized feedback sessions with participants (Rail Nerve Center) and with management (Beating Heart) to confirm that the descriptions of our findings and interpretations of it are correct.

3.2. Data analysis

To analyze the data from two cases we use an approach that O'Mahony & Bechky (2015) call 'comparative field research'. In brief, this entails building theory on multiple, independent studies that may cover different empirical settings but while investigating a similar process or outcome. For instance, Bechky and Okhuysen (2011) focus on the role of surprises in a police team and film production crew to theorize how coordination emerges when unexpected events enter the workplace.

For the Beating Heart project, the issue of project autonomy kept appearing during the analysis as a relevant concept for understanding the innovation project. The first author noticed remarkable similarities with his Rail Nerve Center ethnography. The centrality and importance of project autonomy was discussed within the research team, after which we decided to conduct a separate analysis in which both projects were analyzed through the lens of integration and autonomy. For this paper we thus started with two different data sets – previously already analyzed for their own purpose – by analyzing them anew using the comparative field research approach.

Some of the techniques described for this approach are similar to basic grounded theory processes (Glaser & Strauss, 2017), with a specific focus on illuminating empirical similarities and differences across contexts to engage in robust and grounded theory. We largely followed techniques described in the work of scholars such as O'Mahony & Bechky (2015). First, we analyzed the two innovation projects separately to develop a rich understanding of each context facilitating theory building. This ensured that both cases share characteristics and sensitized the researchers to emerging differences. We conducted these analyses from a qualitative–interpretive paradigm (Yanow & Schwartz-Shea, 2006). This paradigm assumes that 'the social world […] is local, temporally and historically situated, fluid, context-specific and shaped in conjunction with the researcher' (Bailey, 2007: 53). Although project management studies come from a more positivistic tradition (Morris, 2011), interpretative research methods are increasingly used in project studies (Geraldi & Söderlund, 2018) and is in our case justified for understanding the situated nature of project autonomy. After having analyzed the two cases separately, we started a process of comparing and contrasting the analyzed data. We thus started a second cycle of analysis and coding which led to the final results presented in this paper. Fig. 1 illustrates these different phases in the research process.

We then engaged in a process reading *across* the cases. From this process of comparison and contrast, which happened in several meeting with the research team and discussing emerging findings, we found three categories that occurred in both innovation projects and seemed central to explaining how project autonomy was developed: the type of autonomy at the beginning of the project, practices of isolation, and how innovations became (not) integrated within the permanent organizations. This was an iterative process where we constantly went from themes grounded in 'raw' data to more theoretically informed categories. We captured this process in Fig. 2, where we illustrate how comparing two quotes led to similarities across as well as differences between the cases.

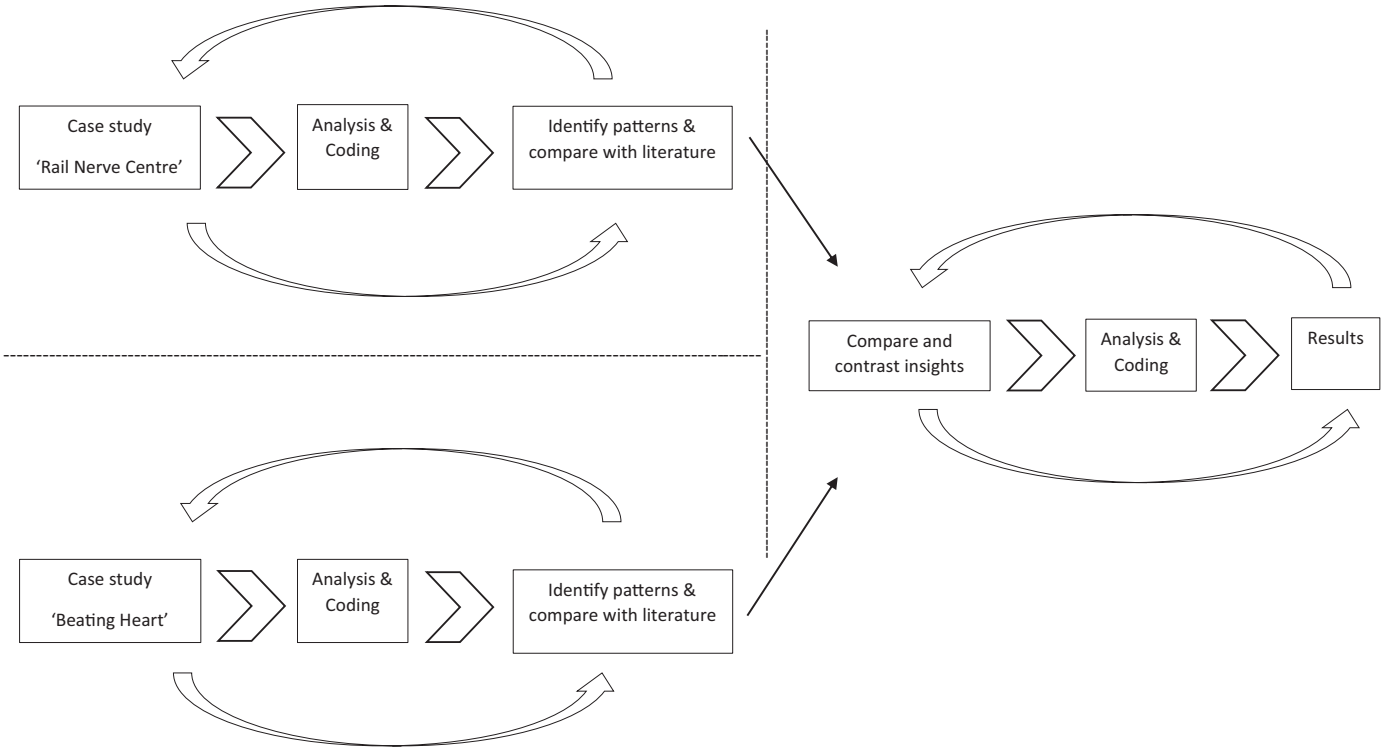

Fig. 1. Overview of research process.

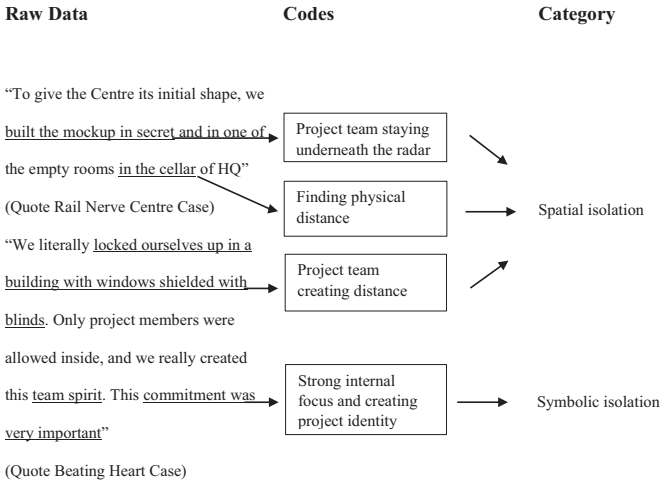

Fig. 2. Identifying commonalities and differences across cases.

After this we wrote memos of each project elaborating the described categories while constantly noting similarities and differences within each case. We chose to present our findings using a case-specific analysis "to identify what each case has in common, as well as what attributes about each case are unique" (Paterson, 2010: 971). Moreover, this way of presenting is suitable to allude to the fact that, while we describe how the outcome of each innovation project was more or less similar, their respective journeys were different. This allows us to theoretically argue for the dynamics and situated shaping of project autonomy through our concept of isolation practices, without falling in the trap of explaining causality, which often happens when comparing phenomena across settings (O'Mahony & Bechky, 2015: 173).

We selected these two cases because they show overlap in terms of the centrality of innovation and the form of interorganizational collaboration. At the same time, they also contrast on which type of autonomy was chosen at the start of the project, i.e. isolated for Rail Nerve Center and embedded for Beating Heart, thereby representing the two ends on the continuum of project autonomy (Martinsuo & Lehtonen, 2009). What we find especially interesting is that while the starting point of both projects in terms of autonomy was very different, the outcome was quite similar as both projects isolated. The shared concern on innovation and new forms of collaboration allow us to compare the cases, while the different trajectories in how project autonomy evolved into isolation allow us to contrast how different dynamics lead to similar outcomes. In sum, these were ideal settings to explore the diversity of how project autonomy in innovation projects is developed.

4. The Rail Nerve Center project

In 2003, the Dutch railway system, which had traditionally been managed by a single organization, was split up into several different organizations: commercial passenger service operators (including departments of traffic information and rolling stock maintenance), commercial freight operators, and a publicly owned infrastructure manager whose responsibilities include traffic control and asset management. The main challenge that emerged from this break-up was to rethink collaboration, especially in terms of traffic control where the tasks of the different organizations were still highly interwoven. Whereas the movement of trains and the management of disruptions used to be directed by a single organization, the control of operations was now divided among several organizations and, consequently, new forms of inter-organizational collaborative partnerships had to be sought.

An incident on the afternoon of April 6, 2005, is generally believed to have led to the Rail Nerve Center project. That day the computer systems in one of the regional traffic control centers were malfunctioning. This was the start of a series of incidents that culminated in the disruption of the entire railway system. Evaluations showed that the disruption was mainly caused by a lack of communication, and the Dutch government urged the railway organizations to improve collaboration and performance in order to restore public credibility and organizational legitimacy. The Rail Nerve Center was to become the physical nerve

center of the Dutch railways, the place where all national disruptions would be monitored and managed. The goal of the project team was to improve inter-organizational collaboration by bringing all the rail organizations into closer physical proximity in a new co-located control center. A project manager explained: *'Our philosophy was: if we are under one roof, we will feel like and become one team, solve problems much better and quicker, and consequently have more opportunities to evaluate, learn and improve our operation'* (interview with project manager, October 2014).

Despite the openness that the project team hoped to establish in terms of new forms of collaboration, it started the Rail Nerve Center project from an isolated project autonomy type, with the involved parent organizations having only marginal roles. The team feared that the project was a potentially controversial and radical intervention in railway operations that could easily interfere with or even exacerbate the already strained inter-organizational relationships. As one project member said: *'this mutual interdependence* [between organizations] *in railway operations makes it really sensitive'* (interview with advisor project team, November 2014). Due to this sensitivity, project autonomy was seen as a strategy to keep the project beneath the radar of the parent organizations and to give the team room to materialize and mature ideas.

4.1. Triggers for project autonomy

An important trigger to choose for a project autonomy type that was isolated from the permanent organizations revolved around dealing with cultural differences within an already highly politicized domain. Several participants confirmed this: *'They are different cultures and you must make sure that every party feels that they are taken seriously'* (interview with external consultant B, November 2014). The development of the Rail Nerve Center was seen as a delicate process that had to consider the different organizational cultures and practices of specific communities within an already tense political network. The project team felt it was necessary to work on the project without direct external involvement. Autonomy was chosen over integration as a strategy to avoid the idea of the Rail Nerve Center entering the political arena prematurely and become a subject of discussion between the top management of the various organizations:

> You enter this strange paradox: if you want to build a mock-up, you have to make an official proposal to the board of directors, which automatically implies that the project becomes a political issue that will be discussed between the organizations. So, if you don't tell them about your plans, you won't get what you want, and if you do tell them about your plans, you won't get it either! (Interview with external consultant A, December 2014).

This quote confirms earlier research that autonomy can refer to different types and degrees of integration as well as isolation (Gemunden et al., 2005). The Rail Nerve Center team, for instance, realized they depended on the resources of parent organizations. Developing autonomy is thus not only a decision made by a project team: it can also emerge from the interrelated and sometimes conflicting views and processes of the temporary project and permanent organization. For instance, to materialize the Rail Nerve Center the project team required organizational support: *'If we really wanted to build a serious mock-up of the Rail Nerve Center, we would need a lot of money. And this money simply was not there, at that moment'* (interview with project manager, December 2014). In this case, a lack of funding necessitated other, creative solutions. Thus, another trigger explaining the autonomy of the project relates to the internal processes of the organization conflicting with and inhibiting project goals (Ledwith & Coughlan, 2005). As a consequence, the project team isolated the Rail Nerve Center project by going 'underground' to avoid the politicization of their immediate goals and external involvement.

4.2. Practices of isolation

The Rail Nerve Center isolated through three different but connected practices: (1) symbolic practices, (2) discursive practices and (3) spatial practices. To elaborate the symbolic practices, most interviewees explicitly talked about the start or kick-off of the project as the moment that a 'pioneering spirit' was adopted in order to be able to creatively approach controversial and sensitive topics in railway operations in terms of inter-organizational collaboration. One project manager stated that the project team had been highly aware that railway organizations are usually biased towards finding solutions to organizational challenges by resorting to technocratic ways of improving the system: *'But we* [on the contrary] *wanted to give substance to the social and psychological aspects of collaboration. One of the ways we did so was to build the Rail Nerve Center mock-up in, literally, a secret way'* (interview with project manager, December 2014). By creating a sense of secrecy and pioneering spirit, the project took a first step towards creating more autonomy and thus symbolically isolating the project from the permanent organization.

Second, discursive practices were found that created further autonomy of the project and separation from the permanent organization. The team perceived their project to be a change project with potentially radical interventions in railway operations, and many claimed that the project was a way to start doing things differently. Some explicitly talked about creating a 'strong project culture': *'We really drew on the work of Kotter* [a change management guru]. *The project team became a "champions group" that slowly but surely made others enthusiastic for the idea of the Rail Nerve Center, too'* (interview with advisor to project team, November 2014). Although the strategy of the 'champions group' was to generate enthusiasm within the permanent organization, the project team openly talked about 'elites' and 'champions' who led the project. This discursive practice of isolation created further autonomy for the project team by drawing boundaries between those who belonged to the project and those who did not, especially in terms of creating a strong internal focus with committed project members who spoke their own 'project language'. Developing a strong project identity relative to the parent organization entails that achieving integration becomes hard work in crossing boundaries (Lehtonen & Martinsuo, 2009).

More concrete still, the project was isolated by spatially removing the temporary team from the permanent organizations. To stay beneath the radar, the first version of a mock-up Rail Nerve Center was built in the cellars of one of the organization's headquarters. During the process, the various parties realized that, despite the earlier splitting up of the Dutch railway system into different organizations, they were still able to access each other's operational systems. So, with a bit of creativity the project team built the first version of the Rail Nerve Center by connecting several different systems – such as traffic control, coordination of rolling stock, planning schemes for train personnel, asset management's maps – to one screen, so as to visualize the state of the infrastructure, planned maintenance work, etc. The pioneering spirit was reminiscent of a form of informal collaboration whereby organizational boundaries were easily crossed in order to achieve a common project goal:

> Someone from traffic control had some money left over from their education budget, and someone else found leftovers from the budget for the renovation of the computer networks… One said: 'I can arrange some PCs' and someone else: 'I will contact this supplier and ask for a big display and a video wall. I can arrange it at a low price if I promise him that, should the Rail Nerve Center become successful, he will get a good deal.' So, we made a lot of deals and arrangements, found some desks, and we were ready to start. (Interview with external consultant A, December 2014)

It would be too easy to interpret the three isolation practices as only being the consequences of purposeful intentions of the project team. As Lehtonen and Martinsuo (2009) have shown, isolation can also be

accidental and emergent and, likewise, other actors such as external management can actively authorize or withdraw autonomy (Gerwin & Moffat, 1997). The secrecy around the Rail Nerve Center project did not so much concern the project team hiding information from the organization, as secrecy should be understood as a social process that needs to be actively maintained in an 'ongoing, iterative and dynamic relationship' (Costas & Grey, 2014: 1424). At the very least, this case shows that organizational structures did not prevent project autonomy from slowly drifting to project isolation, and one could even argue that the three practices were at least passively encouraged by the permanent organization. As discussed, the lack of funds from the organizations to establish a Rail Nerve Center mock-up further contributed, perhaps unconsciously, to the project team sliding from autonomy into isolation. Yet, even while isolated, the project team continued to receive regular visits from several directors who wanted to keep up to date with the project's developments. This suggests that also from the organizational side it was acknowledged that for the project to achieve certain organizational goals (i.e. building a controversial co-located center), integration attempts and isolation practices may co-exist in projects developing their autonomy.

4.3. Project outcomes

After several months of experimenting, the project team had built a working mock-up Rail Nerve Center, which they then presented to the board of directors of the parent organizations. The mock-up consisted of a first materialization of how the diverse traffic and train control systems of the different organizations could be linked up and provide each other with information to form a better picture during disruptions, and this included a first rough description of the new roles, tasks and processes that a Rail Nerve Center would imply. The plan was received with great enthusiasm. Isolating the project had clearly helped the team to achieve projects goals. The motivation for isolation became even more obvious because, as the pioneers had feared from the beginning, the project soon fell prey to the political context in which the parent organizations operated: '*Every conversation about the Rail Nerve Center became a poisoned discussion between the organizations*' (interview with traffic control advisor, November 2014).

After the delivery of the Rail Nerve Center by the project team in 2010, the developed practices on inter-organizational collaboration and innovative knowledge had to be transferred to the parent organizations. However, the dissemination of learned practices and knowledge from the project team to the parent organizations was fraught with problems: '*There were a lot of complaints from the organizations, and they didn't feel involved. They had other ideas that we then had to incorporate, so we felt like we had to do everything all over again*' (interview with project manager, October 2014). Participants claimed it was deemed difficult to maintain the pioneering spirit and collaborative aims of the initial project team: '*At the beginning I really walked around like a lost soul, even though it had all started with a vision*' (interview with functional manager, January 2015). The innovation soon became the topic of a debate over ownership, and some of the existing different organizational identities (e.g. railway organizations or operational units) were in fact reinforced rather than dissolved in the new, co-located center. Moreover, since most of the plans were initially developed in the context of the isolated project, some of the operational procedures and responsibilities in the parent organizations had to be reorganized accordingly.

As the project team functioned in an isolated setting, employees in the parent organizations were not ready or sufficiently prepared for the changes the Rail Nerve Center engendered. The intense inter-organizational collaboration that the project had generated faced struggles when put into practice: '*Some project employees still thought: "I'm from this organization, I'm from that tribe." Each respective culture was firmly grounded in everyone's genes*' (interview with external consultant B, November 2014). It was difficult to maintain the initial enthusiasm due to practical constraints, as the national rail coordinator reflected on the first year of the Rail Nerve Center: '*The enthusiasm slowly waned. In the beginning we witnessed an enormous growing curve. But we've reached a certain level, for a little while now, and nothing really happens anymore*' (interview November 2014).

5. The Beating Heart city development project

The Beating Heart is an urban development project in a large Dutch municipality. The aim was to create a new neighborhood by integrating and connecting several urban areas. To do so, critical infrastructures – such as roads, light rail and electricity networks – were reorganized, while new facilities, such as a cinema, a theatre and shopping centers, were built. The idea was to increase the quality of life in the neighborhood and thus make it more attractive for young professionals to work and live there. This was not an easy task, as the project, which started in 2010, was severely hit by the financial crisis. Given this crisis and the general poor performance of large infrastructure and building projects, new forms of contractual arrangements and collaborative practices between public and private parties were sought in the Beating Heart project. A project member reflected:

> We were in the middle of the crisis and the standard contracts just didn't work. People found them unreasonable, so we had to find other kinds of partnerships… You eventually conclude that you are not the principal contractor for the entire project so you can't take full responsibility. But neither can the private parties. You have to search for common ground, and that also gives some more connection. (Interview with legal counselor A, September 2016)

To find a new form of contractual arrangement, the project was initiated as a public–private partnership. For the municipality, the Beating Heart project was one of the first large and complex construction projects to be tendered to the market in the form of a 'competitive dialogue', which is a kind of procurement process that allows project partners to negotiate and discuss the objectives of a project more intensely than in traditional contracting. In such an innovative partnership – one that required close collaboration between public and private partners to achieve project goals – new forms of knowledge and collaborative practices were necessary. As future projects were expected to be managed in similar ways, the municipality sought to develop ways to manage this project so that the knowledge generated would become available to the organization. The municipality therefore opted for an 'embedded' project autonomy, in which the roles of partner organizations and stakeholders remained central. However, this integration mechanism in practice appeared hard to maintain, and a number of triggers in the project's context asked for greater autonomy.

5.1. Triggers for project autonomy

The main trigger was the confidential nature of the Beating Heart project, which was especially significant during the inherently political context of the tendering phase. In this phase, the sharing of information with people outside the project was prohibited by tender regulations. One manager recalled: '*There was this shredder next to the door and before you left the building you had to shred every document*' (interview with project manager A, August 2016). Due to the confidential phase of the tender, and because the project was the first of its kind, it was difficult for the project members to draw upon earlier experiences and to share and develop ideas with their departmental colleagues. As existing knowledge and organizational processes were insufficient, project members autonomously explored new ways of public–private collaboration. A project manager reflected:

> We faced a lot of challenges. Will this work? What are the consequences? If we do this, what happens further on in the process? We tested and explored a lot. Then tender file was really thick and took us a lot of time and energy to fully grasp. (Interview with project manager B, September 2016)

The second trigger was the hiring of external experts with experience of innovative tendering procedures and public–private partnerships, as this experience was not available internally, nor could it be developed in time. By embedding these experts within the project, external knowledge was expected to become part of the project team. Although this worked out well, incorporating an external party within the project also diluted the existing connections between the project and the parent organization and thus increased the perception of isolation. Moreover, as has been shown by others (e.g. Ledwith & Coughlan, 2005; Vuorinen and Martinsuo, 2018), the capacity to integrate innovative knowledge from project-to-parent requires a significant level of expertise and skills from *internal* project managers who are also familiar enough with the permanent context of the organization.

The third trigger mentioned was the speed of the decision-making processes of the parent organization. Project members experienced a less than desirable level of autonomy, as they had to align with decision-making procedures:

> You may end up with somebody in a project who has no mandate from his department. That person has to go back for permission every time. So, when you think you have finally taken three steps forward, someone tells you it can't be done. (Interview with the consultant internal organization, September 2016)

Project members experienced a lack of mandate when they had to make certain decisions, suggesting that in these instances they felt insufficient autonomy to set and pursue project goals. Time pressures, often caused by a rigid interpretation of the legal procurement regulations and internal organizational structures, were seen as a more general phenomenon constraining the project members in their effort to effectively pursue project goals. Ironically, the perceived lack of autonomy created the right context for the development of isolation practices to increase autonomy of the project instead.

5.2. Practices of isolation

The symbolic practices of isolation were observed in the strong identification of project members with the Beating Heart project. They talked about the tender process being 'exciting' with 'lots of discussions' in a 'dedicated' team. Many interviewees experienced working within such a dedicated and autonomous team as very positive, as according to them it made the team more decisive. This positive self-image was contrasted with a negative perception of the municipality by the project team, as a slow, bureaucratic organization: *'Even if it* [being innovative and creative] *is stimulated, it will immediately fall prey to a number of rules or budgets or abstractions that take the soul out of our work'* (interview with the legal counselor A, September 2016). Furthermore, project managers mainly used their informal networks to attract project members, thereby arguably reinforcing the project identity, as people with similar mind-sets were sought. Thus, by drawing these symbolic boundaries, the project team could differentiate between the project and the municipality.

Discursive practices were found in the labeling of project 'insiders' and 'outsiders'. The discourse around the Beating Heart project often included terms emphasizing its 'uniqueness' and 'complexity', its project members were considered to be *'the very best people of the municipality'* and the team included several *'advisors who were heavyweights in the market'* (interview with the head of the project management office, September 2016). By framing project members as the very best and external experts as heavyweight advisors, distinctions were drawn between project and municipality. This distancing was positively labeled by project members. Interviewees regularly referred to the role of 'distance' when talking about the success of the project, and they stressed that the successful outcome of the tender partially resulted from the fact that the project operated autonomously from the daily, bureaucratic and political context of the municipality: '*The distance works well, especially internally. This was important during the tender, as it was an exciting process with lots of discussions. But as a team we also felt connected'* (interview with project manager A, August 2016). Interviewees emphasized that the complex context of the project and the search for new ways of collaboration with private parties, demanded creative, out-of-the-box thinking. Moreover, as they often had to find exceptions to existing rules and procedures, project members allowed themselves to do things differently. By discursively labeling the distance between project and organizations as something positive, the project members carved out a space where it was easier to act according to their own discretion, finding exceptions to existing rules and procedures, and creating more flexibility to achieve their project goals.

Spatial practices of isolation emerged in the creation of physical boundaries between the project and the municipality. For instance, the project occupied a new location away from the municipality with access restricted to project employees only: *'We literally locked ourselves up in a building with windows shielded with blinds. Only project members were allowed inside, and we really created this team spirit. This commitment was very important'* (interview with the head of commissioning, September 2016). Besides being located in another physical space – referred to as 'a closed bastion' – the physical boundaries between the project and the municipality were also protected by, for instance, the document shredder or the window blinds. These artifacts were ways to adhere to tender regulations that did not allow the free sharing of information, while also reinforcing isolation in a physical sense: the almost ritualistic shredding of documents defined what belonged to the project team space and what belonged to the rest of the organization.

Moreover, the different practices of the project team and the organization reinforced each other, and both contributed to a greater sense of project isolation. The individual departments responsible for projects at a political level, for instance, introduced more control mechanisms in an attempt to integrate the practices in the project with the organization. Yet, for project managers – who are often understood as the link between the project and individual departments – as well as for project members, it was deemed important to continue operating autonomously to navigate the complexity and diversity of the project, and to prevent being hampered by existing bureaucratic procedures. As a reaction, there emerged a certain kind of 'jealousy' among members of the permanent organization. Project members were increasingly seen as 'a bunch of freewheelers' who were doing a lot of things that, from the perspective of the organizational members, were only marginally related to organizational goals. This further triggered the isolation of the Beating Heart project. Isolation appears to be a process that results as much from the intentions of the project as from the intentions of the organization. As this case shows, when there is insufficient attention for integrating the autonomous project with the parent organization throughout the project, autonomy can easily drift into isolation hampering implementation of the innovation.

5.3. Project outcomes

The Beating Heart project has realized a large part of the new city neighborhood and is currently on time and within budget. This public–private construction project is perceived by both the municipality and the project team as a success. The isolation practices have helped the project team to deliver the project's primary goals. The project's secondary goal was to develop new forms of public–private collaboration during the tendering and execution phases and to integrate this within the parent organization, so that it would be available for future projects. Project members collectively sought and found creative ways to solve problems by themselves, and knowledge was shared between different disciplines relatively easily, for instance during informally organized occasions. At the same time, however, and due to the strong level of autonomy, this knowledge was often not 'accepted' by employees of the municipality, who found it hard to see the 'fit' of the specific project knowledge with their own work, or simply did not understand enough

Table 3
Practices of isolation in the two project practices of isolation.

Themes	Rail Nerve Center	Beating Heart
Primary goal	Development of integrated rail control center	Transformation of an existing neighborhood via a public–private partnership
Secondary goal	Innovative ways of inter-organizational collaboration in a co-located coordination center for better performance on the rail network	New forms of knowledge and competences on managing public–private partnerships and innovative ways of tendering
Autonomy	Isolated: partner organizations and stakeholders had marginal roles in the project	Embedded: partner organization and stakeholders had central roles in the project
Triggers for isolation	Creating a safe network to actualize a controversial project Cultural differences in a politicized network Conflicting project and organizational goals	Confidential nature of the tendering phase Project separate from daily political turbulence and bureaucratic procedures External experts from private firms
Practices of isolation by project	*Symbolic*: staying under the radar and creating a sense of secrecy *Discursive*: talking about 'champions' and a 'pioneering spirit' of the project; creating a 'strong culture' with 'elite' employees *Spatial*: 'secret' project office hidden in the cellars of the headquarters	*Symbolic*: drawing on confidentiality to create a 'strong project identity'; reinforced by a separate website and 'corporate style' *Discursive*: talking about 'insiders' and 'outsiders'; emphasizing the 'uniqueness' of the project; selecting 'the best people of the municipality' *Spatial*: located in a 'closed bastion' with artifacts (shredder, window blinds) that contribute to a sense of secrecy
Practices of isolation by parent organization	Lack of funding and support for the project team Passively accepting the project and their 'underground' status to reach controversial goals	Framing project members as 'a bunch of freewheelers' Jealousy of the project's autonomy Not accepting or valuing knowledge generated within the project
Dissemination of knowledge	Politicization of project blocked dissemination of project outcomes Project knowledge could not be transferred to new 'open' stakeholder network New practices were insufficiently connected to daily operations	Parent organization 'refused' lessons learned as they were not deemed valuable Project created knowledge on the tendering process not valued by the permanent organization

of the context of the project to value that knowledge. Evaluation reports show that newer city development projects in the municipality have insufficiently used the experiences of the Beating Heart project. This can be partially explained by the kind of knowledge that is deemed valuable by each community: project members valued the knowledge that was explored in relation to the process of the tendering phases, whereas departments saw more value in knowledge as a ready-made product with a focus on content or best practices.

This case shows how the isolation of autonomous projects can restrict the extent in which lessons learned by individual team members can be disseminated in the parent organization and become integrated in the permanent context. However, because individual project members are simultaneously organizational employees, we can expect at least some spill-over effect, especially in terms of their implicit knowledge.

6. Discussion

We explored practices of isolation in the Beating Heart and Rail Nerve Center projects. In doing so, we developed a dynamic and contextual view of project autonomy that allowed us to study the triggers and practices of isolation by the project team in relation to the parent organization. We now look at the commonalities and differences between the two cases, before discussing what a focus on isolation practices contributes to our understanding of temporary organizations in relation to their parent organizations.

6.1. Reflecting on the two cases

Table 3 compares both cases. The Rail Nerve Center project was politically sensitive and controversial from the beginning, while in the Beating Heart project potential conflicts slowly emerged during the tendering phase. In both cases, project members strongly identified with the unique, innovative and elite character of the project and de-identified with the perceived bureaucratic parent organization(s). The rather disruptive and radical project outcomes of the Rail Nerve Center project hindered knowledge dissemination and implementation, while the radical outcomes of the Beating Heart project were not recognized or implemented by the parent organization.

6.2. Symbolic, discursive and spatial practices of isolation

The study found symbolic, discursive and spatial practices of isolation. The first set of isolation practices are symbolic practices. Our findings show the importance of symbols in the shaping of project autonomy. Symbols are present everywhere in projects as they shape organizational life and carry meaning (Van Marrewijk, 2017). For example, the pioneering spirit, project flags, paper shredders, project office spaces, and negative images of parent organizations were vehicles for symbolic meaning. Geertz (1973) uses the concept of symbols to denote any object, act, event, quality, or relationship that contains a conception—namely, the symbol's meaning. He states that symbols are 'tangible formulations of notions, abstractions from experience fixed in perceptible forms, concrete embodiments of ideas, attitudes, judgments, longing, or beliefs' (Geertz, 1973: 91). An important property of symbols in temporary organizations is their capacity for communicating meaning (Firth, 1973). Symbols are used for creating structural autonomy (Gemunden et al., 2005) to such an extent that projects themselves can become symbols. Löfgren (2015), for example, shows that the Øresund bridge and tunnel megaproject was a symbol of creating a transnational region on the Danish–Swedish border. In another example, the Sydney Harbor sewage tunnel megaproject was an important symbol for the Australian Olympic dream, showing that 'Down Under' could organize the 2000 Olympics (Pitsis, Clegg, Marosszeky & Rura-Polley, 2003).

The second set of isolation practices are discursive practices. Organizational discourses are important vehicles for constituting organizational behavior (Grant & Hardy, 2004). Through discursive practices people make sense of their organization and at the same time enact it. For example, when in both cases project teams talked about insiders and outsiders, elites, champions, and the 'chosen ones', this discourse not just represents but comes to constitute their relationship with the parent organization. Furthermore, by positively labeling the distance to their parent organizations and negative labeling stories about the parent organization, discursive room was created for isolation. For project studies there is an increasing interest in the role of discourses (e.g. Marshall & Bresnen, 2013; Sergeeva & Green, 2019). We agree with Havermans, Keegan and Den Hartog (2015), who use narrative theory, that discourses construct project reality. Similarly, Marshall and Bres-

nen (2013) found project narratives playing an important role in the construction of the Thames tunnel project.

The third and final set of isolation practices are spatial practices. Spatial practices were observed in removing project members from the permanent organization to a distant location (Beating Heart) or to the cellar (Rail Nerve Center). This is contrary to creating locational autonomy for project success (Gemunden et al., 2005) but, instead, involves becoming invisible, with blinded windows and limited access. Our findings contribute to the importance of space in project studies, which increasingly receives attention (Bektas, 2013; Bosch-Sijtsema & Tjell, 2017). Bosch-Sijtsema and Tjell (2017) studied collaboration and knowledge sharing in a project design team and found that the spatial layout and the physical presence of the client facilitated trust building and collaboration. In contrast, Bektas (2013) investigated how project employees of engineering, architect and client organizations collaborated in an open-plan project office and observed that interaction between these professionals was still limited. The demarcation of a group territory, which can be visible for everybody, may prevent employees from engaging in collaboration (Willems & Van Marrewijk, 2017).

These three practices of isolation mutually reinforce each other. Isolation in Beating Heart, for instance, led to an even stronger project identity among the project members, which in turn contributed to a greater perceived isolation among parent organizational actors who labeled the project team ‘a bunch of freewheelers’.

6.3. Project-to-parent integration and autonomy of temporary organizations

Our illustrated isolation practices show how integration and autonomy are ‘created, maintained, and purposefully altered’ (Martinsuo & Lehtonen, 2009: 275) in the relation between the temporary and parent organizations. Autonomy is shaped in mutual interaction between temporary and permanent organizations where it can develop into project isolation. How this happens is contingent on the project’s context and may differ per phase in the project’s lifecycle. For example, while at the start the Beating Heart project was fully integrated in its partner organization, it developed over time into an isolated project. This suggests that innovation projects employ similar mechanisms to create project autonomy, some of which can result in project isolation: triggers, both internally and externally motivated, emphasize symbolic, discursive and spatial boundaries between the project and parent organization. Gemunden et al. (2005): 372) call this a ‘running away strategy’, whereby a project manager bypasses a poorly managed or bureaucratic parent organization and isolates the project from it. This insight contributes to the debate on project autonomy by introducing a more dynamic understanding of how, through practices of isolation, autonomy is created and how this process is shaped by or reinforced in mutual interaction between project and parent organization.

With Dietrich (2006) we see that informal integration mechanisms play an important role in the development of autonomy during the project lifecycle. In both case studies, isolation was an informal strategy of project members to defend their autonomy when faced with politicization (Rail Nerve Center) and bureaucratic involvement (Beating Heart) that impeded achieving project goals in a timely fashion. As others have argued, project isolation can, especially in the development of innovations, be productive in achieving project goals and stimulating the innovativeness of projects (Gemunden et al., 2005) or organizational performance (Criscuolo et al., 2013; Kidder, 1981). We should, however, be cautious in glorifying project isolation, as our study indicates that innovations or project practices developed in isolation frequently interfere with organizational practices and are therefore hardly recognized or accepted by the parent organization. Fig. 3 shows how autonomy developed over time in both cases and how this was shaped by isolation practices. The figure suggests that the idea of purposefully detaching a project from the parent organization to innovate and then reattaching it again once a project terminates (Johansson et al., 2007) may be more

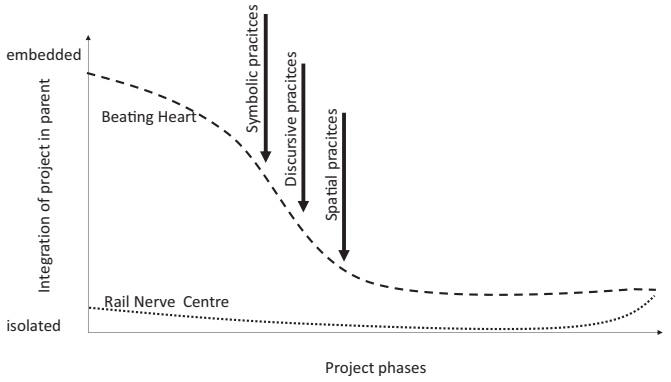

Fig. 3. Development of project autonomy over time in the two studied innovation projects.

problematic in practice. Project autonomy is constituted in not just integration mechanisms but in isolation practices, too. These processes co-exist throughout the different phases of a project, albeit perhaps in different degrees or intensities. This suggests that integration mechanisms have to be in place continuously so that, while granting a project the right level of autonomy to fulfill their tasks, there remains sufficient connection with the permanent organization.

7. Conclusions

In this paper we asked how autonomy is constituted in specific practices of isolation within innovation projects and how these practices are related to project outcomes. We identified three distinct but interrelated project practices of isolation; symbolic, discursive and spatial practices. These isolation practices show how the process of integration and autonomy of a temporary organization in its parent organization is not stable and given but dynamic and delicate in which autonomy is ‘created, maintained, and purposefully altered’ (Martinsuo & Lehtonen, 2009: 275).

This study contributes to the literature on temporary organizations addressing the issue of project’s’ embeddedness in and autonomy from their parent organizations (Burke & Morley, 2016; Sydow et al., 2004). In line with previous studies (Bechky, 2006; van Marrewijk et al., 2016) our findings suggest that the level and type of autonomy for temporary organizations is not fixed and stable but is subject of struggle, strategy and secrecy. The three isolation practices give an in-depth understanding of how autonomy develops over time. Furthermore, the study contributes to the project management literature focusing on the integration of projects in parent organizations (Davies et al., 2014; Gemunden et al., 2005; Lundin et al., 2015; Martinsuo & Lehtonen, 2009; Prado & Sapsed, 2016). We give further insight into how temporary and permanent organizations interact and shape each other through a rich and empirically grounded analysis of practices of project isolation, as has been asked for recently (Lehtonen & Martinsuo, 2009; Näsänen & Vanharanta, 2016; Sydow & Braun, 2018; Vuorinen & Martinsuo, 2018). The practices of isolation shape, through a dynamic interaction between temporary and parent organization, the autonomy of a project and its outcomes. We have illustrated and theorized how isolation occurs and relates to the integration and autonomy of temporary organizations (Lehtonen & Martinsuo, 2009; Näsänen & Vanharanta, 2016; Vuorinen & Martinsuo, 2018). Our study also corroborates earlier findings that implementing innovations through projects is difficult (Bakker, 2010). This contributes to the debate on how innovations are delivered through projects (Criscuolo et al., 2013; Davies et al., 2014; Gann & Salter, 2000; Gemunden et al., 2018; Lundin et al., 2015; Martinsuo & Lehtonen, 2009). We have described internal and external triggers for isolation of projects with a strong innovation focus. This provides the project management literature on temporary organizations with a more

dynamic and contextualized view of project autonomy and its potential effects on project outcomes. Such a dynamic view takes issues of context, power and discourse into account as important for the development of autonomy and the project outcomes.

The limitations of this study mostly lie in the research design. We became fascinated by the phenomenon of isolation when it came to the fore in two parallel research projects. However, both cases focus on public organizations which complicates the transferability of the findings, although we think that private-sector innovation projects are subject to similar isolation practices given the examples of Lockheed Martin and Saab discussed in this paper. Future research could consider the phenomenon of project isolation under different circumstances and in less complex or less controversial projects. It would then be interesting to see whether this happens according to similar dynamics. For project managers of innovation projects, we hope that these findings will help increase awareness of the impact of isolation practices. We encourage practitioners to reflect on the development of isolation practices during the execution of a project and to develop 'connecting' practices to ensure a continuous integration with the parent organization simultaneously.

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Appendix A

Topic guide Rail Nerve Center

1 Introduction
2 Background information interviewee
- Can you briefly introduce yourself?
- What is your current job and function?
- [For railway employees] Please describe your career trajectory in the organization and how you ended up in your current function
- [For outsiders, e.g. consultants] What is your relationship with the railways and how did you end up working for them?

3 History of Rail Nerve Center
- How were you involved with the Dutch railway organizations before the idea of a Rail Nerve Center emerged?
- How do you remember your time there? What were some of the challenges the organization was dealing with? How would you identify the relations between the different railway organizations as well as between the railways and external stakeholders, such as the responsible ministries and the public?
- What were the triggers that eventually led to the necessity of a Rail Nerve Center? Can you describe these triggers in detail? How were these discussed internally and how did this result in the initial ideas of the project?
- Who else was involved in this process?
- How do you manage such a controversial innovation in a politically sensitive context?

4 Identify the participant's involvement in project
- What were your main tasks and responsibilities in the project?
- What were the dynamics of the project team like? And the dynamics between the project team and the railway organizations?
- How did you deal with the sensitive context of the idea of a co-located control center? How did this impact the daily operations of the project team?
- Identify the different phases of the project, from initial idea to execution
- How would you characterize collaboration in the project team? What stories or artifacts were shared and symbolize the Rail Nerve Center?

5 Understand how and why the project was isolated from organization
- You mentioned the project team initially operated in secret and in the cellars of one of the organizations. What led to this decision? And how did you materialize this isolated environment? How did you experience working there?
- How did this isolation shape collaboration in the project team? And how did it influence relations with the organizations?
- What were some of the practices and routines you developed to operate in isolation? How did you manage to find the right resources and support?
- Identify the main challenges of an isolated project team and how this relates to project outcomes, both negatively and positively

6 Reflect on the current situation of the Rail Nerve Center
- How similar or different is the Rail Nerve Center to how the project team designed this to be?
- What would you do different next time you would work on such a controversial project? What are some of the lessons learned?

7 Wrap-up and thank you
- Is there anything else you would like to add?
- Who else should we interview, and can you help us get in touch with him/her?

Topic guide Beating Heart

1 Introduction
2 Background information interviewee
- Can you briefly introduce yourself?
- Current and past roles and responsibilities in organization/project
- Describe a typical day in your function
- Identify relations within the organization/project
- Identify relations with outside stakeholders

3 Involvement in project Beating Heart
- How did you end up working in/for Beating Heart project team?
- How does the selection of project team usually happen?
- Do you primarily work for the project or for the organization?
- Conflicting interests between project and organization and how these are managed

4 History of project – from initial idea up to and including tendering phase
- Motivations for project
- Expectations external environment
- Definition of innovative inter-organizational collaboration and what it looks like?
- What constitutes innovation for Beating Heart? Which goals had to be achieved? How were these goals achieved?

5 Understand daily operations and practises of project team
- What were your specific tasks in this project?
- What were core challenges for Beating Heart and how did you solve these?
- How did you make sure you had the right expertise 'in house'? How did you deal with expertise you had to find externally and what did this do to team dynamics?
- Where was the project team located? How was this space different from the municipality and different departments?
- What were some of the routines and artifacts that were specific to Beating Heart?
- How often would you meet with your organization? Were these meetings formal or informal? What did these meetings look like?

6 Learning and knowledge sharing
   - How is learning in general organized in the municipality?
   - What is offered in terms of training and learning? [for project team members]. What methods/resources do you offer to facilitate learning? [for managers]
   - How do you ensure that knowledge and experience gained in the project finds its way into the organization? How did you do this during Beating Heart?
   - Identify what happens when a project (phase) is completed or delivered. How did evaluation of the tendering phase for Beating Heart happen? What insights did this yield? How did you assure that these insights get captured and are acted upon?
7 Wrap-up and thank you
   - Anything else you would like to add?
   - Anyone you think we should also talk to?

References

Bailey, C. A. (2007). *A guide to qualitative field research*. London: Sage Publications.
Bakker, R. M. (2010). Taking stock of temporary organizational forms: A systematic review and research agenda. *International Journal of Management Reviews, 12*, 466–486.
Bakker, R. M., DeFillipi, R., & Sydow, J. (2016). Temporary organizing: Promises, processes, problems. *Organization Studies, 37*, 1703–1719.
Bechky, B. A. (2006). Gaffers, gofers, and grips: Role-based coordination in temporary organizations. *Organization Science, 17*, 3–21.
Bechky, B. A., & Okhuysen, G. A. (2011). Expecting the unexpected? How SWAT officers and film crews handle surprises. *Academy of Management Journal, 54*, 239–261.
Bektas, E. (2013). *Knowledge sharing strategies for large complex building projects*. Bouwkunde: Delft TU Delft.
Blomquist, T., Hällgren, M., Nillson, A., & Söderholm, A. (2010). Project-as-practice: In search of project management research that matters. *Project Management Journal, 42*, 5–16.
Bosch-Sijtsema, P., & Tjell, J. (2017). The concept of project space: Studying construction project teams from a spatial perspective. *International Journal of Project Management, 35*, 1312–1321.
Burke, C. M., & Morley, M. J. (2016). On temporary organizations: A review, synthesis and research agenda. *Human Relations, 69*, 1235–1258.
Costas, J., & Grey, C. (2014). Bringing secrecy into the open: Towards a theorisation of the social processes of organizational secrecy. *Organization Studies, 35*, 1423–1447.
Courpasson, D., & Younes, D. (2017). Double or quits: Understanding the links between secrecy and creativity in a project development process. *Organization Studies, 39*, 271–295.
Criscuolo, P., Salter, A., & Ter Wal, A. L. J. (2013). Going underground: Bootlegging and individual innovative performance. *Organization Science, 25*, 1287–1305.
Davies, A., MacAulay, S., DeBarro, T., & Thurston, M. (2014). Making innovation happen in a megaproject: London's crossrail suburban railway system. *Project Management Journal, 45*, 25–37.
DeFillippi, R., & Arthur, M. B. (1998). Paradox in project-based enterprise: The case of film making. *California Management Review, 40*, 125–139.
Dietrich, P. (2006). Mechanisms for inter-project integration: Empirical analysis in program context. *Project Management Journal, 37*, 49–61.
Firth, R. (1973). *Symbols. Public and private*. London: Routledge.
Gann, D. M., & Salter, A. J. (2000). Innovation in project-based, service-enhanced firms: The construction of complex products and systems. *Research Policy, 29*, 955–972.
Geertz, C. (1973). *The interpretation of cultures*. London: Fontana Press.
Gemunden, H. G., Lehner, P., & Kock, A. (2018). The project-oriented organization and its contribution to innovation. *International Journal of Project Management, 36*, 147–160.
Gemunden, H. G., Salomo, S., & Krieger, A. (2005). The influence of project autonomy on project success. *International Journal of Project Management, 23*, 366–373.
Geraldi, J., & Söderlund, J. (2018). Project studies: What it is, where it is going. *International Journal of Project Management, 36*, 55–70.
Gerwin, D., & Moffat, L. (1997). Withdrawal of team autonomy during concurrent engineering. *Management Science, 43*, 1275–1287.
Glaser, B. G., & Strauss, A. L. (2017). *Discovery of grounded theory: Strategies for qualitative research*. Routledge.
Goodman, R. A., & Goodman, L. P. (1976). Some management issues in temporary systems: A study of professional development and manpower. The theater case. *Administrative Science Quarterly, 21*, 494–501.
Grabher, G. (2002). Cool projects, boring institutions: Temporary collaboration in social context. *Regional Studies, 36*, 205–214.
Grabher, G. (2004). Temporary architectures of learning: Knowledge governance in project ecologies. *Organization Studies, 25*, 1491–1514.
Grant, D., & Hardy, C. (2004). Introduction: Struggles with organizational discourse. *Organization Studies, 25*, 5–14.
Havermans, L. A., Keegan, A., & Den Hartog, D. N. (2015). Choosing your words carefully: Leaders' narratives of complex emergent problem resolution. *International Journal of Project Management, 33*, 973–984.
Hoegl, M., & Parboteeah, K. P. (2006). Autonomy and teamwork in innovative projects. *Human Resource Management, 45*, 67–79.
Johansson, S., Löfström, M., & Ohlsson, Ö (2007). Separation or integration? A dilemma when organizing development projects. *International Journal of Project Management, 25*, 457–464.
Kidder, T. (1981). *The soul of a new machine*. Boston: Little, Brown and Company.
Lawrence, P. R., & Lorsch, J. W. (1967). Differentiation and integration in complex organizations. *Administrative Science Quarterly, 12*, 1–47.
Ledwith, A., & Coughlan, P. (2005). Splendid isolation: Does networking really increase new product success? *Creativity and Innovation Management, 14*, 366–373.
Lehtonen, P., & Martinsuo, M. (2009). Integrating the change program with the parent organization. *International Journal of Project Management, 27*, 154–165.
Lenfle, S., & Söderlund, J. (2019). Large-scale innovative projects as temporary trading zones: Toward an interlanguage theory. *Organization Studies, 40*, 1–27.
Lieftink, B., Smits, A., & Lauche, K. (2019). Dual dynamics: Project-based institutional work and subfield differences in the Dutch construction industry. *International Journal of Project Management, 37*, 269–282.
Löfgren, O. (2015). Catwalking a bridge. A longitudinal study of a transnational project and its ritual life. In A. H. Van Marrewijk (Ed.), *Inside mega-projects: Understanding cultural practices in project management*. Copenhagen: Liber/Copenhagen Business School.
Lundin, R. A., Arvidsson, N., Brady, T., Eksted, E., Midler, C., & Sydow, J. (2015). *Managing and working in project society. Institutional challenges of temporary organizations*. Cambridge: Cambridge University Press.
Lundin, R. A., & Hällgren, M. (2014). *Advancing research on projects and temporary organizations*. Copenhagen: Copenhagen Business School Press/Liber.
Lundin, R. A., & Soderholm, A. (1995). A theory of the temporary organization. *Scandinavian Journal of Management, 11*, 437–455.
Lundin, R. A., & Steinthórsson, R. S. (2003). Studying organizations as temporary. *Scandinavian Journal of Management, 19*, 233–250.
Macquarie Dictionary, (1992). Macquarie library.
Marshall, N., & Bresnen, M. (2013). Tunnel vision? Brunel's Thames Tunnel and project narratives. *International Journal of Project Management, 31*, 692–704.
Martinsuo, M., & Lehtonen, P. (2009). Project autonomy in complex service development networks. *International Journal of Managing Projects in Business, 2*, 261–281.
Mason, M. (2010). Sample size and saturation in PhD studies using qualitative interviews. *Forum: Qualitative Social Research, 11*, 1–12.
Morris, P. W. G. (2011). A brief history of project management. In P. W. G. Morris, J. Pinto, & J. Söderlund (Eds.), *Oxford handbook on the management of projects*. Oxford: Oxford University Press.
Näsänen, J., & Vanharanta, O. (2016). Program group's discursive construction of context: A means to legitimize buck-passing. *International Journal of Project Management, 34*, 1672–1686.
O'Mahony, S., & Bechky, B. A. (2015). Leveraging comparative field data for theory generation. In K. D. Elsbach, & R. M. Kramer (Eds.), *Doing Innovative Qualitative Research in Organizations: Paths to Cool Ideas and Interesting Papers* (pp. 168–176). Routledge, Taylor and Francis Group.
Paterson, B. (2010). Within-case analysis. In A. J. Mills, G. Durepos, & E. Wiebe (Eds.), *Encyclopedia of Case Study Research*. Thousand Oaks, CA: Sage.
Pitsis, T. S., Clegg, S. R., Marosszeky, M., & Rura-Polley, T. (2003). Constructing the Olympic dream: A future perfect strategy of project management. *Organization Science, 14*, 574–590.
Prado, P., & Sapsed, J. (2016). The anthropophagic organization: How innovations transcend the temporary in a project-based organization. *Organization Studies, 37*, 1793–1818.
Sergeeva, N., & Green, S. D. (2019). Managerial identity work in action: Performative narratives and anecdotal stories of innovation. *Construction Management and Economics, 36*, 1–20.
Siggelkow, N. (2007). Persuasion with case studies. *Academy of Management Journal, 50*, 20–24.
Stjerne, I. S., & Svejenova, S. (2016). Connecting temporary and permanent organizing: Tensions and boundary work in sequential film projects. *Organization Studies, 37*, 1771–1792.
Swan, J., Scarbrough, H., & Newell, S. (2010). Why don't (or do) organizations learn from projects? *Management Learning, 41*, 325–344.
Sydow, J., & Braun, T. (2018). Projects as temporary organizations: An agenda for further theorizing the interorganizational dimension. *International Journal of Project Management, 36*, 4–11.
Sydow, J., Lindkvist, L., & DeFillippi, R. (2004). Project-based organizations, embeddedness and repositories of knowledge: Editorial. *Organization Studies, 25*, 1475–1489.
Tatikonda, M. V., & Rosenthal, S. R. (2000). Successful execution of product development projects: Balancing firmness and flexibility in the innovation process. *Journal of Operations Management, 18*, 401–425.
Turkulainen, V., Ruuska, I., Brady, T., & Arrto, K. (2015). Managing project-to-project and project-to-organization interfaces in programs: Organizational integration in a global operations expansion program. *International Journal of Project Management, 33*, 816–827.
van Marrewijk, A. (2007). Managing project culture: The case of Environ Megaproject. *International Journal of Project Management, 25*, 290–299.
van Marrewijk, A. (2017). The multivocality of symbols: A longitudinal study of the symbolic dimensions of the High-Speed Train Megaproject (1995–2015). *Project Management Journal, 48*, 01–13.
van Marrewijk, A., Ybema, S., Smits, K., Clegg, S., & Pitsis, T. S. (2016). Clash of the titans: Temporal organizing and collaborative dynamics in the Panama Canal Megaproject. *Organization Studies, 37*, 1745–1769.
Vuorinen, L., & Martinsuo, M. (2018). Program integration in multi-project change programs: Agency in integration practice. *International Journal of Project Management, 36*, 583–599.

Wilemon, D. L. (1973). Managing conflict in temporary management systems. *Journal of Management Studies, 10*(3), 282–296.
Willems, T., & Van Marrewijk, A. (2017). Building collaboration? Co-location and "dis-location" in a railway control post. *Revista de Administração de Empresas, 57*, 542–554.
Winch, G. (2014). Three domains of project organizing. *International Journal of Project Management, 32*, 721–731.
Yanow, D., & Schwartz-Shea, P. (2006). *Interpretation and method: Empirical research methods and the interpretive turn*. Armonk: M.E. Sharpe.