Project-based Temporary Organizing and Routine Dynamics

Eugenia Cacciatori
Business School (formerly Cass), City, University of London (UK)

Andrea Prencipe,
Luiss University, Rome (I)

September 2020

Accepted for publication in the 'Cambridge Handbook of Routines Dynamics', M. Feldmam, B. Pentland, L. D'Adderio, K. Dittrich, C. Rerup, D. Seidl (eds), Cambridge University Press.

Project-based Temporary Organizing and Routine Dynamics[1]

Eugenia Cacciatori, Business School (formerly Cass), City, University of London (UK)
Andrea Prencipe, Luiss University, Rome (I)

Projects are forms of organizing that have become increasingly common in the past decades. The ad-hoc and temporary nature of projects seemingly poses significant challenges to the patterning of activities into organizational routines. Yet, considerable research in routine dynamics has been carried out in project contexts. In this chapter, we show that projects and routines share some common characteristics and that acknowledging the project nature of routines as well as the organizational routine nature of projects offers significant opportunities for the advancement of routine dynamics research.

1 Introduction

In contexts as varied as consulting, movie making, software development, and construction, work is carried out through projects. In these contexts, one of the key challenges of organizing is how to reconstitute often complex organizational processes in each new project (Birnholtz, Cohen and Hoch, 2007). The ensuing tension between the need to adapt to the unique circumstances of each project and the benefits associated with maintaining some degree of consistency across iterations provides a context that is uniquely suitable for research on themes at the core of the routine dynamics perspective, such as the balancing of pattern and variety, the relationships between routines and creativity (or at least customization), and how routines change (Feldman et al., 2016). Indeed, several papers that illuminate critical aspects of the

[1] We are grateful to Katharina Dittrich and Claus Rerup for a very supportive editorial process and for pointing us towards exploring the similarities between routines and projects.

dynamics of routines have been developed in empirical contexts in which projects feature pre-eminently (see Table 1 below for examples).

Yet, because of their unique and ad-hoc nature, projects are often perceived as in tension with, if not the polar opposites to, routines. For instance, projects that are carried out one-off to change unsatisfactory ways of working can be seen as organizational tools that are alternatives to routines, a sort of rebalancing element in organizing (Obstfeld, 2012). However, many, if not most, projects, from new product development to construction, have a recurring nature in that organizations engage in them repetitively. We focus on this kind of projects in this chapter. We argue that, when projects recur, not only is there significant scope for patterning and repeatability, but that the distinction between what is a project and what is a routine becomes blurred. We will argue that acknowledging this blurring, and recognizing the project element in routines as well as the routine element in projects, provides significant opportunities to enhance further the understanding of the key themes at the center of the current research agenda of routine dynamics (Feldman et al., 2016), as well as project-based temporary organizing (Bakker et al., 2016; Burke and Morley, 2016; Cattani et al., 2011).

In what follows, we first define projects and project-based environments. We then discuss how the conceptualization of routines in the routine dynamics literature highlights similarities between routines and projects. We then review opportunities to advance routine dynamics further.

2 Projects and temporary organizing

2.1 Definition

There are multiple definitions of projects in the literature, but most can be summarised around the idea that projects are organizational arrangements set up to achieve a predetermined objective within an assigned time frame (Grabher, 2002b).[2] Thus, two characteristics define a project : a relatively well-defined and specific objective (for instance: launching a specific new product or filming a specific movie); and an 'institutionalized termination' (Lundin and Söderholm, 1995), so that achieving the project's objectives implies the disbanding of the project entity. In practice, there are of course exceptions. For instance, a successful product development team can be kept together over multiple product launches (Maurer, 2010), and some projects have life spans that might extend into the decades (Davies, Gann and Douglas, 2009; Davies et al., 2014; van Marrewijk et al., 2016).

While organizations might set up ad-hoc and unique projects to deal with extraordinary circumstances, there are many situations in which organized activity is based around *recurring* projects. For instance, many organizations run a constant stream of new development projects at various lifecycle stages from idea generation to commercialization. Perhaps more significantly, there are entire industries in which the production process itself is carried out through projects, ranging from complex product and systems such as large design and engineering projects (e.g., Davies et al., 2011) to advertising (e.g., Grabher, 2002c) to movie making (e.g., Manning, 2005). We refer to these contexts as project-based, and to organizations that carry out their activities primarily through projects (such as, for instance, consultancies or construction firms) as project-

[2] For a review, see Brookes et al. (2017).

based organizations (see also Gann and Salter, 1998). In this kind of context – where projects are undertaken recurrently - the combination of repetition (e.g., another film project) and diversity (e.g., different actors and a different set of specialized partners) offers significant potential for the advancement of the routines dynamics perspective.

2.2 Characteristics

The ad-hoc and temporary nature of projects has important implications for the way they operate.

2.3.1 The traditional view of PBO: discontinuity in organizing

Much of the early literature on project-based and temporary organizing emphasized the *discontinuity* in organizing associated with the unique and temporary nature of projects. If projects exhibit one-off characteristics, participants confront the difficult task of 'learning from samples of one or fewer' (March, Sproull and Tamuz, 1991) and a 'learning paradox', in which projects are good at generating knowledge but bad at preserving it and building on it (Bakker et al., 2011). Even when they may share some similarities, projects may be characterized by relatively long life cycles, requiring that similar project activities are executed again only after long time intervals. In addition, the temporary and ad hoc nature of projects means that new individuals and organizations participate in each project and new relationships develop when a new project is started, which can increase barriers to learning from previous experience (Arthur, DeFillippi and Jones, 2001; Bresnen, Goussevskaia and Swan, 2004; Gann and Salter, 2000; Hobday, 2000; Scarbrough et al., 2004; Swan, Scarbrough and Newell, 2010). In short, the temporary nature of projects and their unique tasks makes them idiosyncratic social units, creating barriers to learning and replicability of solutions. The implication drawn by this literature was that achieving patterning and repeatability of activities at the project level entails

significant complications. Projects, especially long-lasting ones, might well develop their own internal routines and routines might exist in the support activities that organizations run in the background to projects (Gann and Salter, 1998; Gann and Salter, 2000). However, there is not enough continuity in activities and actors to afford effective patterning and repeatability *across* projects. In this sense, each project is seen as organizationally unique.

2.3.2 Sources of continuity in project-based organizing

Subsequent literature provided a counterbalance to the emphasis on uniqueness and discontinuity of the early work, by highlighting that there is more continuity in project environments than initially meets the eye. This literature highlighted that 'no project is an island' (Engwall, 2003) and that organizing in projects is mostly about the tension that emerges 'between the autonomy requirements of project participants [and the project per se] and their embeddedness within organizational and inter-organizational 'settings' (Sydow, Lindkvist and DeFillippi, 2004, p. 1476). The embeddedness of projects in their context and the continuity this affords, can in principle support organizational routines across project iterations.

Two major sources of continuity in project-based and temporary contexts have emerged in the literature: (1) firms or other types of formal organizations participating in the project, and (2) the wider institutional context. Firms provide an extensive reservoir of management practices and routines that can be applied to the projects in which they participate (e.g., Grabher, 2004; Ibert, 2004; Stjerne and Svejenova, 2016), particularly when the project is mostly internal (such as in traditional new product development) or when inter-organizational projects take place around a 'hub organization' - organizations that recursively coordinate and integrate the activities of other actors (Starkey et al., 2000). Studies of project-based organizations have highlighted how the general ability to manage projects is an essential capability of firms operating in project

environments (Lampel, 2001; Söderlund and Tell, 2009); and that there is a consistent and growing pressure for the standardization of project management tools that an organization uses across projects (Clegg and Courpasson, 2004; Ibert, 2004). Indeed, studies have shown that project-based organizations do develop routines across projects (Brady and Davies, 2004; Davies and Brady, 2000; Davies et al., 2018; Edmondson and Zuzul, 2016; Lampel and Shamsie, 2003; Swan, Robertson and Newell, 2016; Tranfield et al., 2003) and that,in fact, the semi-autonomous nature of projects can make more difficult for firms to change routines across all of their projects (Bresnen, Goussevskaia and Swan, 2005).

The second source of continuity is the institutional environment in which firms operate. This has three major components. The first component is industry-wide expectations about how roles are performed within projects, and what the expected sequence of activities for the project is (Bechky, 2006; Bresnen et al., 2005; Grabher, 2002a, 2002c; Windeler and Sydow, 2001). Bechky's (2006) discussion of the film industry provides useful insights. There are clear expectations of what the role of the director entails (e.g., choosing and directing actors, translating the screenplay into images), and these are different from the expectations of, say, what a 'grip' will do (e.g., handle scene lighting, working with the electrical department and the photography director). Second, everyone is familiar with the broad sequence of activities in shooting a scene or making a movie. Third, these widespread expectations provide sufficient stability to make coordination possible but also make room for negotiating practices that allow the tailoring of the role to the specific circumstances of each project. The second component of the institutional environment is the thick social networks that support various aspects of project-based organizing (Grabher, 2002a; Grabher, 2004). Of particular relevance to the study of routines is that social networks established through collaboration in previous projects may help

in sustaining stable routines, either because actors know how the other person works from previous experience, or through word of mouth. Finally, there is often repeated collaboration among firms across a range of projects – a practice increasingly documented in the project-based literature (Ebers and Maurer, 2016; Eccles, 1981; Manning and Sydow, 2011; Schwab and Miner, 2008, 2011), and these arrangements support the development of routines across organizations and projects (Bygballe and Swärd, 2019).

3 Routine Dynamics and projects

As mentioned above, many studies within the routine dynamics perspective feature project-based contexts (see Table 1 for an overview of several studies in this area). These studies, read in conjunction with the literature on project-based organizing, provide a foundation to examine the relationship between projects and routines.

Insert Table 1 about here

First, the routine dynamics literature reveals that routines, far from being the dual opposite of projects, share some characteristics with them. In particular, routine dynamics emphasizes the nature of routines as 'effortful 'accomplishment' (Feldman et al., 2016), aimed at carrying out a "day-to-day operational 'task' (Rerup and Feldman, 2011, p. 584) such as, for instance, collecting garbage (Turner and Rindova, 2011), changing towels in hotel rooms (Bapuji, Hora and Saeed, 2012), hiring (Rerup and Feldman, 2011), patrolling (Glaser, 2017) and shipping products (Dittrich, Guérard and Seidl, 2016). The name of each of these routine suggests its objective as well as giving some broad criterion for gauging when a routine performance is completed (e.g., the decisions of whom to hire has been reached or not for a given pool of candidates; towels have been changed, etc.). Thus, similarly to projects, routines also feature a specific goal and an end-point that makes reasonably clear when a performance of

the routine is completed. Further, many routines also share with projects the challenge of relatively long time lags between performances, such as, for instance, routines for managing the accommodation of new students on campus (Feldman, 2000) and hiring (Rerup and Feldman, 2011). An excellent example here is Birnholz and colleagues' (2007) discussion of the annual regeneration of a summer camp that, despite very significant turn over in personnel, manages to maintain a sense of identity and continuity based on re-enacted routines. Explicit goal-orientation has important limitations in explaining action in routines (Dittrich and Seidl, 2018; Feldman, 2016). Yet, one reason why routines are effortful accomplishments rather than mindless repetitions is that actors are aware of the 'routine's goal and what they need to achieve to complete it, and will, therefore, deal knowledgeably and creatively with current circumstances to achieve that objective – even though this might, in the end, generate new goals for the routine (Dittrich and Seidl, 2018). Thus, it can be argued that an emphasis on the projectual nature of routines is inherent in the routines dynamics approach, and it is integral to its core themes. An excellent example of this is the case of emergency management, in particular tasks such as search and rescue, in which the whole routine architecture (artifacts, training, and knowledge) is set up to make sure that routines participants can recombine and adapt element of the routine in the way most suited to the achievement of the task (Danner-Schröder and Geiger, 2016).

Second, the routine dynamics perspective understands routines as 'repetitive streams of situated 'action', where situated action is embodied and partially 'ad 'hoc' (Feldman et al., 2016, p. 506). This approach emphasizes the tension between stability and change inherent in routinized behavior (e.g., Aroles and McLean, 2016; Birnholtz et al., 2007; Turner and Rindova, 2011) and is similar to the most recent approach to projects, that sees them as negotiating a path between continuity and ad-hoc adaptations to changing circumstances. Indeed, there is a

considerable body of routine dynamics research carried out in project environments. Examples include technology roadmapping for new product development (Howard-Grenville, 2005), new product development itself (Salvato, 2009; Salvato and Rerup, 2018); software implementation (Berente et al., 2016), video game development (Cohendet and Simon, 2016), emergency management (Danner-Schröder and Geiger, 2016), engineering design (Cacciatori, 2012), and innovation projects (Deken et al., 2016).

The literature on project-based organizing has emphasized that routines can develop either within a project or at the level of the organizations running the project (Gann and Salter, 1998, 2000; Bresnen et al. 2005), particularly when projects are largely internal or in contexts in which a "'hub' organization exists (e.g., Davies et al, 2018). Routine dynamics research taking place in project contexts has typically examined firm-level routines and their performances across projects. This has provided an ideal setting to explore the situated, ad-hoc nature of action in routines, highlighting the role of agency (both human and non-human) and the nature of routines as effortful accomplishment as performances need to bridge and adapt to discontinuities in projects. This work shows that many of the discontinuities pointed out in the early literature on project-based organizing can be bridged through the knowledgeable and situated action of individuals, actions that coalesce into patterns that are recognizably 'the 'same' across projects. For instance, Salvato (2009) shows how managerial action is central in evaluating the action variations generated in the performances of NPDs, and then embedding successful variations into successive performances so that they become part of the pattern; Salvato and Rerup (2018) and 'D'Adderio (2014) show how standardization and flexibility, and attending to different goals, can be maintained through regulatory action in NPDs and actors sequential attention to different objectives during routines replication projects respectively; Spee and colleagues (2016) and Sele

and Grand (2016) investigate how actors (both human and non) juggle the intersection of routines, emphasizing different elements of the routines, to produce either variation and innovation or stability in research projects and reinsurance deal-making respectively.

Overall, the routine dynamics literature in project-contexts has provided a convincing account of how routines that are redeployed across projects are not merely one way in which continuity across projects can be achieved. Rather, routines are themselves core processes through which continuity and adaptation can be achieved in project contexts, as they weave together the various sources of continuity, and human and material agency. For instance, Berente et al. (2016) show how routines act as shock absorbers, making sure that perturbations are resolved locally in order to achieve the overall objectives. Bertels and colleagues (2016) and Cohendet and Simon (2016) show how actors use cultural resources to repair local and global breakdowns respectively in a way that ensures that actions still display patterns that are recognizable across performances. Overall then, the need to account for the specific context of each project has helped to bring to the fore the generative tensions between patterns and performances, the role of human and material agency in mediating how these tensions are dealt with and reconciled, thereby affording significant advances in understanding routines as effortful accomplishment achieved by knowledgeable, reflective actors engaged in situated action (Feldman et al., 2016).

4 Opportunities for routine dynamics

The common elements between projects and routines, as well as the characteristics of project-based organizing, suggest rich opportunities to delve into some of the themes as the center of the routine dynamics research agenda (Feldman et al., 2016).

Temporality. Because of their time-delimited nature, projects afford a unique opportunity to expand the emerging interest in the temporality of routines (Turner and Rindova, this volume); (Turner, 2014; Turner and Rindova, 2018). The body of research on temporality in projects, similarly to the routines literature, emphasizes the role of time orientation (towards the past, present or future) in balancing flexibility and standardization (Ligthart, Oerlemans and Noorderhaven, 2016; Stjerne and Svejenova, 2016) and in mediating innovativeness (Lindkvist (1998)). Because projects exist at the intersection of multiple structures (e.g., the firm, the industry, and the occupation), they can help in disentangling the role of the temporalities associated with each of these structures on the dynamics of routines, such as, for instance, temporalities associated with careers trajectories, the project itself, and the participating organizations; and between the clock and event times that each of these levels might employ. This could afford further exploration of the processes that mediate the generative tension between patterns and performances at the intersection of these distinct temporalities. Further, the investigation of time in routine dynamics might benefit from bringing to the fore the projectual nature of routines, and looking at routines as processes taking place within defined temporal boundaries. For instance, work in routine dynamics highlights the role of urgency (Turner and Fern, 2012), and a focus on routines as projects could help in unpacking how time boundaries interact with intentionality, in particular how timing interplays with means-end rationality (Dittrich and Seidl, 2018). Another promising research avenue that researchers have begun to explore is looking at how temporal boundaries within projects themselves influence the evolution of routines, and the role of transition across phases (Addyman, Pryke and Davies, 2019).

The relationality of routines and networks of routines. Recent research has made significant progress in illuminating how different routines interact and intersect. With few

exceptions (e.g., Bertels et al., 2016; Blanche and Cohendet, 2019; Jarzabkowski, Bednarek and Spee, 2016), the focus has been on the interaction of routines within the same organization (e.g., Deken et al., 2016; Sele and Grand, 2016; Spee et al., 2016). Project environments offer the opportunity to extend this understanding to how routines at different levels (e.g., at the level of the group, the organization, the occupation, or the industry) and from different sources come to interact and shape action (Rosa, Bulgacov and Kresmer, this volume). In particular, projects are relatively autonomous entities, and as such tend to develop their own specific routines. And because, as discussed above, they draw resources from the broader social context in which they operate, projects might import routines from other levels, including occupational groups (Jarzabkowski et al., 2016), and industries (Bertels et al., 2016; Blanche and Cohendet, 2019). This richness has so far been largely left unexplored in routine dynamics, and it offers the opportunity to further understanding of the interaction of multiple sources of patterning, some of which are linked to the direct experience of participants with the routine in question in the specific social environment of a given project, while others come from various other forms and levels, including direct experience with how the same routine is enacted in different projects (e.g., developing a concept design for a building), and industry-wide expectations (both written and unwritten) of what the standard pattern is, and what the 'best 'practice' looks like. Project-based context would, therefore, offer a valuable context to explore the relationships between patterns originating from different levels, in this way furthering several themes that are relevant to routine dynamics, such as the development of a multilevel perspective (Salvato and Rerup, 2011); clarifying the relationships between routines and interpretive schemata (Rerup and Feldman, 2011); and between routines and their context (Howard-Grenville, 2005) (Howard-Grenville, this volume). At the same time, such analysis could contribute to the literature on

project-based organizing, helping to clarify further how projects navigate between autonomy and the need to fit into a broader institutional environment.

Materiality. Project-based contexts also offer unique opportunities to explore the role of artifacts in mediating routine dynamics, particularly through sociomaterial (D'Adderio, this volume) and actor-network (ANT) perspectives (Sele, this volume). Indeed, what evidence we have suggests that artifacts are essential in bridging the partial dissolution of social context linked to the termination of projects, and in sustaining the recreation of routines across projects particularly in contexts where projects are coordinated by hub organizations (Cacciatori, Tamoschus and Grabher, 2012). Objects can provide the anchor for the re-enactment of processes even when they are no longer physically present (e.g., the flagpole at Camp Poplar Grove in Birnholtz et al. (2007)). Representations of products and representations of processes can be bundled to support patterning and repeatability across projects (Cacciatori, 2012), with coordination achieved within each project through 'cascades of 'representations' (Whyte, Tryggestad and Comi, 2016). In the context of emergency management, which is akin to a project context, artifacts with different characteristics (representation of processes vs lists of tasks) help in reproducing routines with different levels of uncertainty (Danner-Schröder and Geiger, 2016). The modular and combinatorial nature of some artifacts, together with libraries of previous instantiations of a specific tool, provides resources that help in the customization of output while maintaining similarity in patterns (Cacciatori, 2008; Grabher, 2004). Further, artifacts appear to be key in connecting the various levels at which routines operate, bridging individual, project, organizational, and industry levels (Cacciatori, 2008; Jarzabkowski et al., 2016). While much has been unpacked, much remains to be understood. We propose here two areas of particular interest for the study of how standardization and flexibility can balance. The

first relates to the role of configurations of material objects, rather than individual objects. Objects are often linked to each other (Cacciatori et al., 2012; Scarbrough, Panourgias and Nandhakumar, 2015; Whyte et al., 2016), but we know relatively little about how these links are constructed, used and invoked in balancing standardization and flexibility. The second is the complementarity of objects and individual agents. Many objects are associated with specific occupations and professions, and professionals carry with them these objects, often personalized, from project to project. Indeed, over their career professionals build archives of previous solutions developed using a particular tool, and these provide resources they can draw upon in new projects (Cacciatori, 2008). Because of the discontinuity of social relations and tacit understanding across projects, project environments constitute an ideal setting to investigate these issues.

Embodiment. The discussion above also suggests the potential of a focus on the specific characteristics of project-based organizing in furthering the understanding of embodiment in routine dynamics. Embodiment, from the role of skills to the role of the body in shaping communication, is a central and yet underdeveloped element of routines (Blanche & Feldman, this volume). Individuals, through their careers trajectories across projects are, together with artifacts, important sources of continuity in project-based organizing (Arthur et al., 2001; Bechky, 2006; Grabher, 2004; Grabher, 2005). While routines themselves are sources of connectivity and understanding (Feldman and Rafaeli, 2002), project-based environments offer the opportunity to look at the reverse process – how connectivity and the shared understanding that individuals gain from operating in the same broad milieu can facilitate or hinder patterning across projects in the face of changing membership. Further, a focus on embodiment, possibly using habit as a mediating concept (Simpson and Lorino, 2016; Turner and Cacciatori, 2016),

can help to move the discussion beyond cognition, towards a more holistic and embodied view of how patterns are recreated across routines.

5 Conclusions

This chapter has reviewed the main characteristics of organizing through projects when these goal-oriented and temporary structures are used in recurrent fashions. Each project is unique and idiosyncratic, while at the same time being embedded in a range of social structures that provide continuity. These characteristics of projects are shared by routines, which have a defined objective as well as a clear beginning and end. We have thus discussed how project contexts, as well as an approach that brings into sharper focus the project nature of routines, can help further understanding in contemporary themes in the routine dynamics approach, such as their relationality, their temporal dynamics, and the role of artifacts. Additionally, using a routine dynamic perspective, our analysis does point to two inherent dimensions of the nature of projects: the patterned and recognizable nature of projects – i.e. projects are instantiation of previous activities – and their recurrent, repeatable nature. Both dimensions are at the basis of the continuity aspect of projects.

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Table 1 – Examples of routine dynamics empirical studies in project-based contexts

Study	Context	Routine	Insights
Berente et al. (2016)	Double project context: Software implementation project in NASA. The space industry is a project-based context (e.g., Mars mission)	Procurement and project management routines	Routines can work as shock absorbers by dynamically adjusting to perturbations. Misalignments are stabilized locally, and this ensures that organizational level objectives can be achieved in the face of external variation in the environment.
Bertels et al. (2016)	Oil and gas industry, in which starting and operating a new extraction site constitutes a project.	Importation of a best practice external routine - the Operational compliance routine, ""which focused on 'employees' regular use of a new comprehensive database of regulatory compliance obligations and associated specific tasks"" (p.574)	Cultural resources at firm level shape the process of importation so that the emerging routine resembles but is distinct from the original one. This happens through cultural work shaping the artifacts and expectations of the routine even prior to implementation, and then cultural resources being used to protect workaround and maintaining the integrity of the whole routine.
Blanche and Cohendet (2019)	Live performances– where each production represents a project	Transfer of a bundle of interconnected routines (choreographic, musical and design) constituting a ballet to be performed at a different location	The transfer process is guided by implicit metaroutines that are part of the professional culture; the sharing of the ostensive aspect of routine; and the attention to the original choreographer intent. These practices allow the innovation necessary to adapt to the local context while maintaining the artistic integrity of the show.
Cacciatori (2012)	Engineering design – PFI projects	Development of a new bidding routine for integrated procurement of government building in the UK	Multiple artifacts designed to work as a system to anchor the routine mediate the truce and problem-solving aspects. They connect different communities in problem-solving, while there is substantial activity by specific communities to position their own community artifacts as central to both routine execution and the knowledge accumulation process.
Cohendet and Simon (2016)	Videogame development	Changing the ""stage-gate"" product development routine	The alteration of the balance between creativity and efficiency in a routine can be obtained by borrowing elements from other routines and recombining them with elements of the existing routines, with cross-fertilization between the ostensive and performative aspects of different routines.

D'Adderio (2003)	Automotive - NPD	New product development routine	The codification of knowledge into software changes the nature of knowledge and causes changes in routines in ways that are difficult to anticipate and might be counterproductive for cross-functional collaboration by emphasizing heterogeneity and incompatibilities of knowledge bases and practices.
'D'Adderio (2008)	Automotive - NPD	'Engineering 'freeze' routine during new product development	The relationship between procedures as artifacts and routines evolves across performances (and therefore across projects) through processes of framing (in which the routine is decontextualized and standardized); overflowing (in which elements that were discarded lead to workarounds) and reframing.
Danner-Schröder, A., Geiger, D. (2016)	Emergency management (where each deployment following a disaster can be seen as an individual project)	Several routines (set-up of the basis of operation, triage, search, rescue …)	Participants describe certain routines as stable and others as flexible – while still recognizing a specific pattern for each routine across projects. These differences can be explained by the differences in the role of artifacts, training, and modes of knowing in emphasizing workflow in one case or tasks and their possible recombinations in the other.
Deken et al (2016)	Automotive – Innovation project aimed at developing a new business model	'Toll 'Gate' and 'Partner 'selection' routines.	How novel outcomes are reached at the intersection of interdependent routines, balancing the need to generate novel outcomes with the need to manage existing and novel, emerging interdependencies. This requires routines work that flexes existing routines to meet new circumstances, extends routines to new contexts, or creates new routines. In turn, this work generates emergent consequences that need to be dealt with, providing the engine for routines dynamics.
Howard-Grenville (2005)	High-tech - Manufacturing process development project	Roadmapping routine	The balance of flexibility and persistence of routines is achieved through human agency (the intentions and orientations of individuals), and the organizational context in which routines are embedded.
Jarzabkowski et al. (2016)	Reinsurance – each reinsurance deal constitutes an individual project, tailored to the risk and the partners involved	Deal appraisal routine	Artifacts play an important role in connecting the deal appraisal routine with individual professional work, collective professional work, and work at the industry level involving multiple professionals.

Rerup and Feldman (2011)	Research organization	Recruiting routine	Routines change through processes taking place at the intersection of trial and error processes and interpretive schemata. The processes of trial and error and learning are less homogeneous than previously thought, with different salience and dynamic of trial and error and learning associated with problems and questions.
Salvato (2009)	Design-intensive manufacturing	New product development routine	Individual agency and action is central in both generating variation and embedding it into routines so that it becomes routine change. Variation is produced during the performance of the NPD routine, and managers then play a key role in selecting successful variations and stably embedding them in successive performances.
Salvato and Rerup (2018)	Design-intensive manufacturing	New product development routine	The balance between the conflicting goals of design and efficiency is achieved through human agency in the form of regulatory actions. Regulatory actions emerge in response to problems and direct action towards either of the goals. Regulatory action includes "'splicing' (recombining activities and participants), "'activating' (switching on specific ad hoc actions, such as informal meetings), and "'repressing' (switching off specific actions).
Sele and Grand (2016)	University	Research projects routines	Innovation is the product of interconnected routines, whose generativity (both in terms of outcomes and routine dynamics) depends on how actants connecting them are recruited to support action. Actants recruited as mediators simply maintain connections, whereas as intermediaries they modify those connections.
Spee et al. (2016)	Reinsurance - each reinsurance deal constitutes an individual project, tailored to the risk and the partners involved	Deal appraisal routine	Actors achieve balance between flexibility and standardization by shifting the salience of the routines that intersect the focal routine, where each intersection can orient action towards patterns favoring either flexibility or standardization.
Schmidt et al. (2019)	New venture incubator	Prototyping routine	The incubator organization replicates the prototyping routine across all its entrepreneurial ventures. The prototyping routine is embedded in an ecology of routines that accelerate its deployment across ventures by unburdening the core innovation process.