

Mission Statement

The Project Management Journal's mission is to shape world thinking on the need for and impact of managing projects by publishing cutting-edge research to advance theory and evidence-based practice.

Projects represent a growing proportion of human activity in large, small, private, and public organizations. Projects are used to execute and sustain today's organizational activities. They play a fundamental role as the engine of tomorrow's innovation, value creation, and strategic change. However, projects too often fail to deliver their promise.

PMJ addresses these multiple challenges and opportunities by encouraging the development and application of novel theories, concepts, frameworks, research methods, and designs. *PMJ* embraces contributions both from within and beyond project management to augment and transform theory and practice.

The Journal welcomes articles on projects, programs, project portfolios, megaprojects, project-based organizations, project networks, project business, and the *projectification* of society.

It welcomes the following topics, but not limited to: governance; strategy; innovation and entrepreneurship; organizational change, learning, capabilities, routines, information systems and technology; complexity and uncertainty; ethics; leadership; teams; and stakeholder management in a wide range of contexts.

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Contents

Editorial

- Advancing Theory and Debate in Project Studies 351
Joana Geraldi, Jonas Söderlund, and Alfons van Marrewijk

Special Issue Articles

- We Are Projects: Narrative Capital and Meaning Making in Projects 357
Arne Carlsen and Tyrone S. Pitsis
- The Worthy Human Being as Prosuming Subject: 'Projectified Selves' in Emancipatory Project Studies 367
Karin Berglund, Monica Lindgren, and Johann Packendorff

- Thinly and Thickly Capitalized Projects: Theorizing the Role of the Finance Markets and Capital Supply in Project Management Studies 378
Alexander Styhre

- The Management of Values in Project Business: Adjusting Beliefs to Transform Project Practices and Outcomes 389
Miia Martinsuo

- Conflicting Notions of a Project: The Battle Between Albert O. Hirschman and Bent Flyvbjerg 400
Kristian Kreiner

- Project Studies Beyond the Straitjacket: An Escape Artist's Manual 411
Mattias Jacobsson and Anders Söderholm

- The Challenges of Implementing Temporal Shifts in Temporary Organizations: Implications of a Situated Temporal View 420
Anne Live Vaagaasar, Tor Hernes, and Therese Dille

Regular Articles

- Assessing the Vulnerability of Megaprojects Using Complex Network Theory 429
Ning Guo, Peng Guo, Ravi Madhavan, Jing Zhao, and Yang Liu

- The Role of the Project Management Office (PMO) in Stimulating Innovation in Projects Initiated by Owner and Operator Organizations 440
Natalya Sergeeva and Sultan Ali

- Several Notes on the Existential Hermeneutic Phenomenology for Project Management and Possibilities of Its Extension by Other Existential Concepts: Case Study From the Research Project Team 452
Michal Müller and Lenka Jedličková

Advancing Theory and Debate in Project Studies

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Introduction

Project studies, in other words, the scholarly inquiry into project-based organizing and working life, is advancing. The field has gained increasing attention from scholars around the world and across disciplines. Not only organizational theorists and business scholars (Clegg et al., 2002; Grabher, 2004; Sydow et al., 2004) but also sociologists (Scott et al., 2011), psychologists (Chiocchio et al., 2015; Lovallo & Kahneman, 2003), historians (Scranton, 2014), and economists (Hirschman, 2015 [1967]) and many others explore project-based organizing and its implications to individuals, organizations, and society. This increasing and vivid diversity of disciplines has provided a new platform for further theorization and has opened the field for fruitful cross-fertilization with other fields of inquiry (Davies et al., 2018; Söderlund, 2011). We have also witnessed an impressive institutional advancement of the field as international academic journals and research institutions dedicated to project-based organizing grow in number, reputation, quality, and impact. Concomitantly, the field relishes academic legitimacy, as project-based organizing features frequently in many top-ranked journals and at leading international academic conferences.

The academic and institutional developments have contributed to extending the field beyond its traditional engineering school orientation, which characterized much of its early days (Morris, 2012). Grounded in social theories and humanities, scholars have come to demonstrate the importance of looking at projects as political, social, and cultural entities that span multiple contexts of socially interdependent networks. As a consequence, we are becoming much better equipped to understand the multifaceted and processual nature of contemporary projects (Söderlund, 2011) and project ecologies (Grabher, 2004). Thus, project studies are not only growing in volume and variety, but also advancing in legitimacy and theoretical sophistication.

In light of this development, we can expect the field to grow, but we cannot expect it to bloom. The growth increases the diversity of scholars, inspired by different theories, different empirical settings, and different onto-epistemological traditions. If not connected to a community of scholars with common interests on projects, the diversity can lead to fragmentation (Knudsen, 2003; Söderlund, 2011), and thereby the field could fail to benefit from its diversity and size. The core of such an academic community are theories and debates, working in tandem (Chalmers, 1976) to advance our understanding of

projects as societal, organizational, and individual phenomena. We believe that in a vibrant academic community, different views clash and debates will raise. The debates, in turn, call for better and more carefully crafted arguments, more empirical data, and so forth. Hence, cross-fertilization and debates fuel our theorizing practices (Davies et al., 2018), and help advance project studies and our understanding of the project phenomenon. Thus, grounded in a dialectical view of research, this special issue aims to open a space in project studies, where project scholars can voice their opinions and draft bold theorizing in the forms of essays and conceptual articles, where we can spur debate and raise controversies.

Advancing Debate and Theorizing

This special issue was borne out of an ambition to stimulate a vivid academic debate addressing some of the fundamental theoretical issues within the broad area of project studies. To some extent, when we launched the idea, we were increasingly uncomfortable with the lack of academic debates, disagreements, and provocative claims that we believed were needed to develop better and more insightful theories within project studies. Our concerns evolved in tandem with other areas of social science and organization theory scholars who at the time called for more elaborate theorizations, problematizations of core assumptions, and explorations of contradictions, what we called *Type 3 research* (Geraldí & Söderlund, 2018). Our efforts are also aligned with earlier calls for critical project studies and the advancement of theories of projects (Cicmil, Williams et al., 2006; Packendorff, 1995; Söderlund, 2004).

Building on the duality of debates and theorizing, we called for project scholars to develop essays to fuel the debates and conceptual papers to enhance the theorizing. First, answering to Gabriel's (2016) call, we encouraged the development of essays to open space to fertile debates. Due to the current publication

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games—that is, the pressure to publish frequently and in high-quality journals, driving academic research and thinking—essays have become an endangered genre (Alvesson & Gabriel, 2013). Such a development is unfortunate. According to Gabriel (2016, p. 244) an essay gives “a voice to an author’s creative imagination...[it] authorizes opinion, ... not as an expert or as a witness but as a thinking subject... [It] allows the use of different forms of reasoning, including analogies, illustrations and narratives, as well as different legitimate rhetorical and stylistic devices which appeal to emotion to explore, develop, defend, challenge or qualify a position.” Essays are a useful genre of intellectual and academic thought that supports Type 3 research (Geraldi & Söderlund, 2018). Following Gabriel (2016, p. 246), “the essay as a genre represents a dual intervention against what it declares as a status quo—an intellectual or academic intervention that challenges established ways of thinking as well as a political intervention that challenges the political interests supported by these ways of thinking.” Thus, we asked contributors to “construct their voices” as project scholars, personal and vested, to come with contributions that would defend well-argued, solid opinions about theories or attempts of theorizing.

Second, we support the *PMJ*® Editorial Board’s decision to enhance the position of *PMJ*® in terms of publishing interesting advancements of theory (Müller & Klein, 2018). Therefore, with this call for papers, we want to stimulate exploratory thinking and bold theorizing to further develop project studies as a scholarly field. We were specifically looking for organization and management theories that are relevant to project studies, as well as contributions demonstrating how project studies can enrich the fields of organization and management more generally. In that respect, we are trying to discuss how project studies might be advanced and how project studies might benefit from theorizations in other related areas, such as organization theory, sociology, and psychology. Equally important for the long-term sustainability of our field, we should also address how project studies might advance management and organization studies, so that it does not become an isolated area of knowledge without impact on surrounding fields. We do believe that project studies have something to offer to the larger field of management and organization studies; and, new paths of meta-theorizing offer a fruitful avenue for broader theoretical contribution (Davies et al., 2018).

We were hoping that the contributions would make us better equipped to move the field further by addressing some of its fundamental issues. Such papers would ultimately contribute to our understanding of why projects exist, how they differ (Van Marrewijk, Ybema et al., 2016), how they behave (Aubry, 2011), how they are managed (Söderlund, 2004), and how they relate with broader institutional contexts (Sydow & Staber, 2002).

Rethinking the Publication Process

The topic of advancing theory and debate in project studies emerged in discussions at the EGOS (European Group of Organization Studies) conference in Tallinn, Estonia, in the

summer of 2018. The Tallinn Creative Hub, a refunctioned power station in which the EGOS conference party was organized, gave space to a lively discussion and interest in the topic of stimulating debate in project studies, which matched our interest in stimulating theoretical developments in project studies. We combined our efforts in a call for papers on theory and debate in project studies. The development of the special issue was also supported by a co-writing workshop in Copenhagen, hosted by the Centre for Advanced Studies in Project Organizing, Department of Organization at Copenhagen Business School. In the workshop, some of the editors and authors met and discussed the ongoing debates, as well as the lack thereof, in project studies. The stimulating conversations informed this editorial and the review process.

Our call for theorizing and debate required an innovative review process. As argued by Gabriel (2016): “A research paper that strongly divides reviewers ends up either rejected or revised to the point where most criticisms are silenced.” We therefore instructed the reviewers to rethink common reviewing practices, and allow strong opinions and a liberty in style that is less formulaic and potentially refreshing. However, reviewers were also suggested to strongly oppose to “narcissistic, cliché-ridden, incoherent, politically ultra-correct, pompous, pretentious, timid or simply full of hot air” (Gabriel, 2016, p. 249). Within this general frame, two criteria guided the review process. First, the contribution should present a cogent and persuasive theoretical argument. Second, it should contribute to debate and theorizing on a relevant topic within project studies. We asked reviewers to reflect on the contribution based on the following questions: Is the idea interesting and/or provocative? Does it have potential to catalyze new ways of thinking in project studies? To what extent does it also address more fundamental theoretical challenges in management and organization studies?

We needed an innovative and developmental review process to ensure that papers received the feedback required to improve the ideas and theories presented in each of the papers. The process was far from straightforward. In reflection, we changed the institutionalized roles that enabled the seemingly smooth review processes (Bechky, 2006; Van Marrewijk, Ybema et al., 2016). Both the reviewers and editors questioned whether the papers were acceptable, as they, sometimes, clashed with our institutionalized views of a traditional journal paper. At the same time, we enjoyed reading well-crafted arguments presented in refreshing formats, making us rethink and question established beliefs.

The outcome was a combination between what one could consider as traditional theoretical/conceptual papers and more essay-like contributions. The call for papers attracted 47 proposals, of which 23 were invited to be developed into a full paper. After a double-blind review process with two to four revisions, the first seven papers are published in this special issue. A second set of papers are still under review for potential publication in a *PMJ*® special issue at a later stage.

Overview of the Articles in This Special Issue

Next, we will introduce the accepted articles in this first special issue. We have clustered the articles inductively. This thematic division is far from perfect, as many of the articles span across the themes. As such, however, this division helps connect the articles logically with each other and with a more general discussion on project studies theory and debate.

Project Citizens: Living Through and in Projects:

The first group of articles discusses what it means to live and work in and through projects. They focus on the inner dynamics of projects and its consequences to individuals participating in projects. For a long time, these inner dynamics have been overshadowed by an outside, epic, perspective on a (mega)project's budget, planning, and scope (Van Marrewijk, 2015). Inner dynamics entails issues of sensemaking, identity, social interaction, power relations, and their social reproduction in projects (Brookes et al., 2014; Cicmil & Gaggiotti, 2014). These reflections form the background for profound discussions on the nature of individuals working in projects as well as for contributions to theory and our understanding of projects.

The article by Arne Carlsen and Tyrone S. Pitsis, entitled *We Are Projects: Narrative Capital and Meaning Making in Projects*, introduces (biographical) narratives in project studies. The attention to narratives and biographical methods in organization and management literature (Boje, 1991; Czarniawska, 1998) hasn't been connected yet to project studies. Carlsen and Pitsis build upon the concept of narrative capital (Ricoeur, 1991) to focus on the voices and experiences of those living, breathing, and kindling life into projects. They understand projects as naturally storied units of experiencing, which play vital roles in how project managers create their lives. For example, project managers attribute narrative elements from their projects to enrich their own professional life story. They thus embark upon their adventures where challenges are met, and risks are handled, and tell stories about their thrilling experiences, elaborating on successive retellings and thus enriching their life story.

The article by Karin Berglund, Monica Lindgren, and Johann Packendorff entitled *The Worthy Human Being as Prosument Subject: ‘Projectified Selves’ in Emancipatory Project Studies*, explores the consequences of projectification of society to individuals. Based on the concepts of *entrepreneurial selves* and *prosumption*, Packendorff et al. propose the concept of the *projectified self* and analyze how individuals construct themselves as objects of value to organizations and society. They critically discuss what this means to individuals and society. The authors conclude with a research agenda, calling for future emancipatory studies that can maintain a critical voice about the consequences of the projectification of society.

Project Society: Reflecting and Organizing Value Through Projects

The second group of articles centers on projects as value-creating mechanisms. Project-related research has treated projects as vehicles for defining, creating, and delivering value, dominantly perceived as the worthiness of the project or its deliverables, in particular in terms of financial outputs (Martinsuo et al., 2019). However, projects not only deliver value immediately after reaching scope, time, and cost goals, but also through benefits and outcomes over the life cycle of the project. This set of articles discusses projects as value-creating mechanisms through the lens of finance theory (Styhre), of ideology (Martinsuo), and of the debate between Hirschman and Flyvbjerg (Kreiner).

The article by Alexander Styhre on *Thinly and Thickly Capitalized Projects: Theorizing the Role of the Finance Markets and Capital Supply in Project Management Studies*, focuses on how finance capital increasingly defines projects. Although financing is a very important component of projects, project studies paid little attention to how finance capital defines the assessment of projects and their worthiness for investment, given projected revenues and rents. Building on finance theory, Styhre claims that projects should be understood in their “broader financial, regulatory, and political context wherein projects are developed, operate, and evolve.” Therefore, he calls for evaluating the influence of new financial instruments on the execution of projects. Two types of projects are discussed: those, such as housing projects, in which uncertainty can be reduced through a combination of subsidies, insurances, or exemptions; and those, such as life science venture projects, in which uncertainty cannot be reduced. The supply of finance capital determines the conditions under which projects are initiated, planned, and managed.

In *The Management of Values in Project Business: Adjusting Beliefs to Transform Project Practices and Outcomes*, Miia Martinsuo criticizes the traditional view on project value to be predominantly focused on financial worthiness and measurable benefits. This focus on *hard value* obfuscates the true value of a project, because it does not include other related benefits and costs. Therefore, she develops an alternative perspective of project value based upon the concept of value as belief. Based upon the concept of values from organization sciences (Hatch, 1993; Schein, 1985), project value is understood to be subjective, not the same for all stakeholders, and dynamic, evolving over time with stakeholders seeing the full value of the project only long after its completion. Furthermore, Martinsuo sees a tension between diverse value dimensions and the prioritization among them, as well as a gap between expected and achieved value. The article thus extends the debate on value with organization culture theory.

Kristian Kreiner's essay on *Conflicting Notions of a Project: The Battle Between Albert O. Hirschman and Bent Flyvbjerg* sheds new light into the most vivid debate in project studies today: Hirschman's versus Flyvbjerg's view on the hiding hand principle—a theory that examines how ignorance in the formative stage of projects may be benevolent as

it underestimates not only the costs but also people's ability to respond creatively to obstacles. Kreiner suggests a novel framing on this debate, not as a matter of disagreements on facts, but a matter of disagreements on practical (or value) judgment. While Flyvbjerg values getting things right at the outset, Hirschman opens the opportunity for getting things right at the end. Most fundamentally, by reflecting on the reception of Hirschman's ideas in project studies, Kreiner elucidates how values and assumptions might encourage project scholars and practitioners to learn the same lessons over and over again, and thereby reinforce "the awkward body of knowledge in which the field is currently entrapped, philosophically, theoretically, and practically." Kreiner therefore challenges project scholars not to accept ideas from other fields, but instead to draw inspiration from these ideas and "do the rethinking ourselves." In this regard, Kreiner's essay contributes not only to a discussion on project value but also to project scholarship. Finally, Kreiner's contribution fits Gabriel's description of an essay at its best, "an object of beauty, affording readers a degree of aesthetic pleasure in the text itself, while provoking them to look at the world with fresh eyes." (Gabriel, 2016, p. 246).

Project Scholarship: Enriching Organization and Management Theory

The third group of articles centers on how project studies can enrich organization and management theories and, by doing so, further develop project theory. Putting it mildly, the general interest of organization and management journals for project studies is not overwhelming. However, project and general management research are increasingly being linked. Theoretical contributions and publication outlets have moved beyond the traditional project management journals (Geraldi & Söderlund, 2018). For example, there is a growing theoretical interest in the concept of temporary organizations, resulting in the much quoted Organizations Studies special issue on temporal organizations (Bakker et al., 2016). The two articles in this group embrace this issue in two complementary forms. First, Jacobsson and Söderholm propose avenues to bring insights of projects into general management audience. Second, Vaagaasar, Hernes, and Dille follow these avenues and enrich the organization and management debate with a discussion on temporality.

Mattias Jacobsson and Anders Söderholm, in their article *Project Studies Beyond the Straightjacket: An Escape Artist's Manual*, note that, despite the relevance of projects to economy and society, projects as an empirical field have received limited attention by general management and organization theorists. As we argued earlier, this trend has been changing in recent years, yet, we also agree with the authors that progress is required. In a lighthearted and refreshing tone, Jacobsson and Söderholm address the struggles of project scholars to reach out to general management and organization studies communities. Building on phenomenology of science, the authors propose and exemplify a four step "escape artist manual" to help project scholars to break out of project studies, and frame possible contributions

to the larger academic community. Breaking out is important not only for the academic careers of project scholars but also for the field to gain legitimacy. Moreover, as Kreiner argues in his contribution, breaking out could, if done well, confront our thinking with our presumed values, and open the opportunity to learn something new.

Finally, in their article, *The Challenges of Implementing Temporal Shifts in Temporary Organizations: Implications of a Situated Temporal View*, **Anne Live Vaagaasar, Tor Hernes, and Therese Dille** delve into one of the fundamental aspects of projects: temporality—how people experience and relate to time. Historically, project scholars have tended to confine temporality to notions of duration. The authors, instead, propose a dynamic view of temporality, highlighting that the duration itself is dynamic, and related to the time that is left, and the time that has passed. In this way, the authors point to consequences for individuals living in projects and their perception of time. They then propose a situated temporal view on projects, which represents a strong process approach to understanding the nature of time and temporality in temporary organizations (Bakker et al., 2016).

Conclusions and Future Research Opportunities

This special issue invited scholars to broaden the theoretical foundation of project studies with theories and debates. We thank the authors and reviewers involved in the development of the special issue for their courage to embark in this experiment, venturing into an innovative style of writing and reviewing. With a certain risk of petrifying the rethinking (see the Kreiner article in this issue), the invitation has resulted in seven academic contributions developing theories from a wide range of theories; finance theory (Styhre), identity theory (Packendorff et al.; Carlsen & Pitsis), values as ideology (Martinsuo), and temporality in temporary organizations (Vaagaasar et al.). We hope that, the special issue has offered suggestions to stimulate explorative thinking and bold theorizing and thereby further develop project studies as a field of inquiry and generate debate among project scholars on core topics and assumptions.

We feel that the escape route of project scholars (see Jacobsson & Söderholm) is very interesting for developing new theories for project studies. The linking of project and general management research clearly deserves more attention, but is far from easy. Scholars connecting these two fields experience, as in any other interdisciplinary study, differences in perceptions of high quality scholarship, jargon, reviewer practices, and research methodologies. Moreover, frequently, debates are held at separate conferences. To facilitate the development of new ideas, new arenas that can transcend diverse academic networks need to be established (Davies et al., 2018). Based upon our personal experiences, this all seems to be a burden at first sight, but combining two academic fields actually enriches one's thinking and research.

Although a wide diversity of topics has been covered, we have undoubtedly missed others. Some additional ideas were sparked during our discussions, including but not limited to the following: strategizing theory, routine literature, ritual literature, narrative theory, sensemaking, organizational attention, ethics, materiality, and many others. Also, as part of the development of an inspiring academic community, we would have welcomed also methodological contributions, for example, narrative analysis, biographical methods, shadowing, mixed methods, auto-ethnography, and engaged scholarship.

We are pleased that the call for papers inspired scholars to contribute to the academic debate—more research than what could be included in this special issue. We follow with great interest how other original proposals may come to develop and eventually appear in other journal issues. We hope that the articles in this special issue spark not only new research openings, but also theorizing and debate among scholars.

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Abstract

Research on projects has to a limited degree taken issue with how projects are chief producers of meaning at work. We develop the concept of *narrative capital* as a basic mechanism for how people can engender meaning in and through projects in organizations. Narrative capital is derived from experiences that people appropriate into their individual and collective life stories, retrospectively, as adding to a repertoire of accumulated learning and mastering, and prospectively, in terms of living with purpose and hope. We chart implications for meaning making in projects as expanding ownership, expanding connections of impact, and extending narrative possibility.

Keywords

projects, narrative capital, meaning making, identity, imagination

The first two years, seriously, I hoped for a small heart attack so I could say that I had to quit—Carlsen and Pitsis, “Experiencing Hope in Organizational Lives,” 2009 (p. 78)¹ (interview with headmaster leading a school transformation project)

Introduction

In his classic article “From Meaning to Method,” Van Manen (1997, p. 345) inspires us to pay attention to the textual meaning of those we seek to study because a “good phenomenological text has the effect of making us suddenly ‘see’ something in a manner that enriches our understanding of everyday life experiences.” In the simple quote from the school headmaster above, one may glean a multitude of insights about life in projects—of a person’s commitment to that project to the point where the only way out at times seems through a heart attack. In that single sentence, one can imagine and empathize with the stress and challenges this leader endured as he tried to transform the school from a run-down, hopeless place struggling to attract any students at all, into the leading school of its kind in the country (Carlsen & Pitsis, 2009a). In project management research and practice, we have all too often allowed method to preclude meaning (Cicmil, 2006), to the point that we no longer hear or even listen to the voices and experiences of those living, breathing, and kindling life into those projects. Losing meaning, whether in research or life, means losing out on what makes projects powerful.

This article sets out to develop the concept of *narrative capital* as a basic mechanism for how people can engender meaning in and through projects at work. Projects are increasingly

acknowledged as vehicles for how people get things done in organizations (Geraldi & Söderlund, 2018; Lundin et al., 2015), whether that means delivering services, creating and producing things, or facilitating change and innovation (Davies et al., 2018). Projects as a particular form of temporary team-based work practice are, however, largely unrecognized as chief producers of meaning in organizations (Rosso et al., 2010). Research suggests that work practices may facilitate multiple sources of meaning in organizations. This may include a sense of calling (Bunderson & Thompson, 2009), the intrinsic joy of doing things well (Csikszentmihalyi, 1999), or the ability to do well *for others* (Bolino & Grant, 2016) and *with others* (Colbert et al., 2016). All of these sources of meaning are in principle relevant also for projects as a specific form of organizational practice. But our focus as to the reason why projects may be the number one meaning maker in organizations lies elsewhere.

In this article, we focus on projects as conduits to creating and sustaining meaningfulness at work. We advocate for more understanding of the inherent meaning making potentials in projects: Projects can serve a fundamental function of creating progression in the experiencing of work-related identities

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(Dutton et al., 2010) that can be seen as ongoing life stories. This is so because projects play a major role in structuring the spatiotemporal experience at work; people create, alter, or sustain their identities through practices that are organized as projects. Projects, in short, are naturally storied units of experiencing that play vital roles in how people enrich their lives through remembering past experiences and imagining the new. To give this flesh, we develop the concept of *narrative capital* (Carlsen & Pitsis, 2009b; Scheibe, 2000) to explore how people engender meaning in and from projects as being related to their sense of self. With narrative capital, we understand the appropriating of some desirable time-bound experiences into individual and organizational life stories, either as projects passed, or those orienting what people hope for when living life forward. Appropriating involves both backward-looking reflection and forward-looking imagination. Narrative capital is thus comprised of storied units of meaning that are important both in the sense of retrospectively building a repertoire of competence-enhancing experiences and sustaining positive legacies, and prospectively in terms of generating new possibilities for development and growth. Thus, we see narrative capital as closely tied to projects as a temporal phenomenon in realizing possibilities (following Schutz, 1967; Schutz & Wagner, 1970) and enriching people's lives. Like other constructs of human capital,² the concept of narrative capital accentuates the positive connotations of accumulation of something of social value. We shall return to the more precarious and potentially negative sides of narrative capital toward the end of the article.

We tie the concept of narrative capital to the framing and delivery of projects. Doing so, we unabashedly privilege the actors, and human experience, to explore how particular forms of meaning making may both produce positive identities in the workplace and positively influence project success. We begin with two core assumptions: (1) at the organizational level, projects are the fundamental tools used in organizations to realize strategy and getting things done; and (2) at the individual level, projects are the conduit to self-development and meaning making. We make no causal claims that meaning making always underpins performance, or that projects are reducible to narrative capital. Rather, we are exploring how, as the title of our essay suggests, in a basic way, people are the culmination of their projects, how people need projects for life enrichment, and what this implicates for meaning making in organizations. We are projects in terms of where we belong; even more so, we are projects in what we become (Carlsen, 2009).

In a philosophical sense, our ideas of projects correspond to the pragmatism of William James and John Dewey, in particular as interpreted by Alexander's (2013) idea of *The Human Eros*. In its most basic interpretation, *The Human Eros* denotes our search for meaning—meaning fundamentally steeped in a qualitative engagement with the world we live in. Meanings can be found in the artifacts of our human existence, in our successes and our failures, and in our daily practice. Projects, in short, serve vital functions of remembering, attending, and projecting in this ongoing meaning making. Meaning so conceived

is a form of imagination that is “an operation in the present, establishing continuity with the past and anticipating the future” (Alexander, 1993, p. 387). Now, while Alexander refers more to a pragmatic imagination, consistent with Deweyan philosophy, we see projects as the material, naturalistic, and humanistic acts through which imagination becomes a quest for meaning. People need projects to produce meaning, not just for the individual but to fulfill societal missions more broadly, be it a moon landing, restoring a run-down school or caring for a small community garden in a poor area of the city.

We offer a theorizing of projects as potential generators of narrative capital, conceived through six sections. In the first three of these sections, we lay the theoretical groundwork, mainly drawing on narrative psychology, pragmatism, and narrative identity theory as applied to organizations and projects. In the last three sections, we discuss implications for research and practice: What new research questions are implied by a theory of projects as generators of narrative capital, and how might project managers act on these insights? Figure 1 provides an overview of the theoretical argument and some of its implications.

Why Projects? Tell Me About Your Projects and I'll Tell You Who You Are

The idea that people are their projects can be traced back to at least two sets of sources. One is the notion of a distributed self, originating from the work of Bruner (1990, pp. 106–107; see also Little, 1993), who suggested seeing identity less as a nuclear core and more as a “swarm of participations” distributed over a range of contexts and engagements, whereby people meet social expectations and acknowledgment as participants. Conceived as such, peoples’ identities are to no small degree a function of the social worlds they are engaged in, and projects may form the nuclei of these social worlds. Thus, selves are distributed over projects as *discourses* where meaning is negotiated between protagonists and stakeholders in the outside world (including external project participants and beneficiaries).

Selves are also distributed in projects as social *practices* (Bruner, 1990, pp. 116–118), whereby people are actively involved in various undertakings as participants and co-creators. People’s identities are not mere psychosocial constructions hovering above the ground of social practice (Dreier, 1999). Rather, identities are achieved in social action and unfold along trajectories of social practice (Carlsen, 2009; Holland et al., 1998) and the particulars of value creating activities that people are engaged in at work. Such value-creating activities may have strands of professional identity (Pratt et al., 2006) that differ substantially among types of projects, such as research projects versus consulting projects (Empson, 2013), or product development projects versus systems deliverables (Carlsen, 2006). In project-based organizations, projects are at the center of practice, the “embodied, materially [and symbolically] mediated arrays of human activity” (Schatzki, 2001, p. 2). Thus, when we say that people are what they do (Carlsen,

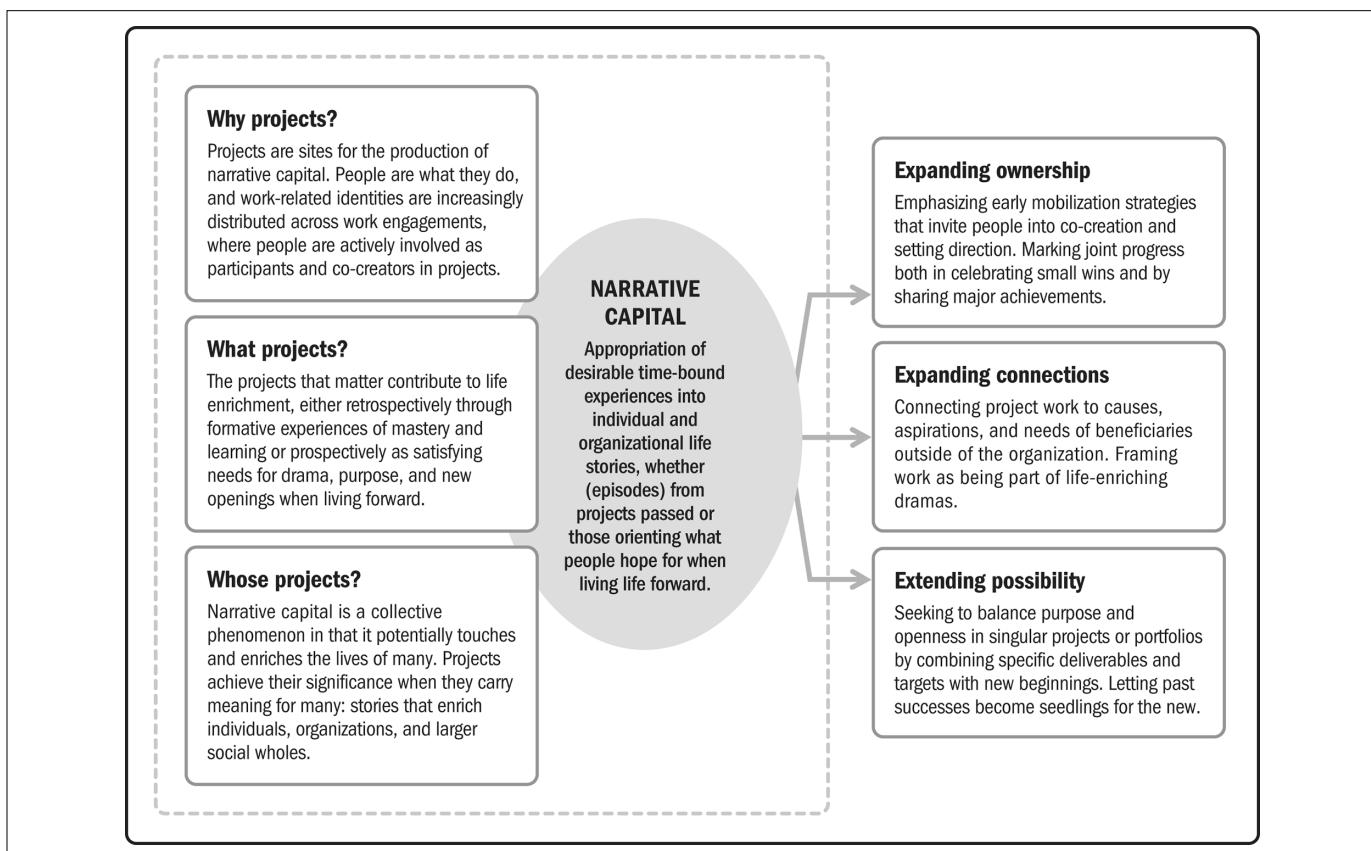


Figure 1. The concept of narrative capital in projects: Underpinnings and implications.

2009; Holland et al., 1998), we could also say that we are our projects. For the headmaster in the opening sequence example, this indeed seemed the case. The rest of his professional life took place at the school, and the transformation and further development of the school in many ways became a lifelong personal project pursuit (Little et al., 2017) that formed his professional and personal identity (Carlsen & Pitsis, 2009a). But all this in itself is only part of the story.

What Projects? Mundane Projects and Projects for Life

Projects of course differ widely in objectives, rhythm, division of labor, participation within and across organizations, time length, and magnitude—whether economically, with regard to what is at stake, and for whom. Few projects that people engage in at work are life enriching in ways that leave lasting influences on their sense of self. Which projects then matter the most or, more precisely, *how* are projects *made* to matter and produce narrative capital?

Some projects are from the start set up to pursue a calling, like creative projects that fulfill deeply held personal and professional passions (Svejenova et al., 2011), or megaprojects that represent iconic monuments of economic, aesthetic, political, and technological significance (Flyvbjerg, 2014; Pitsis et al., 2003). Between the range of pre-charged projects and the

more mundane and routine undertakings, lies a vast territory of opportunity for meaning making. We suggest that projects matter because, and when, they can produce meaning making as life enrichment, either through retelling and remembering stories of what was, or through projecting stories of what could be. Narrative psychology and narrative identity theory postulate that narratives are basic cultural forms that render sequences of human experiences and intentions meaningful through time (Bruner, 1990; MacIntyre, 1981; Mitchell, 1981; Sarbin, 1986). People experience their lives through evolving life stories that they continuously construct and reconstruct to make sense of their past and anticipate their future (Bruner, 1990, Crites, 1971; McAdams, 1993, 2001). In a retrospective sense, projects may contribute to narrative capital because they produce formative experiences in peoples' lives that can contribute to legacies (Bednar, 2013), build self-efficacy (Bandura, 2000), and leave something behind for future generations (McAdams & Guo, 2015). This is the meaning of narrative capital that is the closest to the work of Scheibe (1986, 2000), who used the term to denote the value of chapters added to individual life stories. To Scheibe, narrative capital results from embarking upon time-bound and goal-directed adventures where challenges are met and risks are handled:

The value of such action is that the consequences of having enjoyed such thrilling experiences flow beyond the bounds of

the occasion. One tells stories about these events, “dines out on them,” elaborates and embroiders on successive retellings. In this fashion, the life story of the participant is enriched (Scheibe, 1986, p. 136)

It is inherent in these statements, though less articulated, that projects may also produce stories that are lived-in narratives. People not only use stories to make sense of their past or celebrate their accomplishments but grab plotlines that inform what they attend to, enact, and deem important when living life forward (Bruner, 1990; Ricoeur, 1991). This dimension of narrative capital has been further emphasized and developed by Carlsen and Pitsis (2009b), who underlined the projective element of life enrichment associated with moving horizons of expectation and hope in the stories of what could be. From such a projective perspective, narrative capital may also be associated with unpredictability and risk as valuable in itself (Kvalnes, 2016), because projects are arenas where people satisfy fundamental needs of experiencing drama (Carlsen, 2008) and purpose (Pitsis et al., 2003). Narrative capital engenders a form of possibility thinking that in itself is the foundation of creative thought, involving “the posing, in multiple ways, of the question ‘What if?’” (Craft et al., 2007, p. 2). In short, we are the stories of the projects we remember because they made a difference for ourselves and others, and those that we anticipate because they provide hope when living forward.

Whose Projects? One, No One and One Hundred Thousand

Thus far, in this article, we have described narrative capital as something that may be taken to belong primarily to individuals. Let us broaden it. *One, No One and One Hundred Thousand* was the title of the famous novel by Nobel Laureate Luigi Pirandello (1926/1992)—a philosophical chronicle of identity and madness that was much ahead of its time. The protagonist in the novel starts a frantic search for his true self (to the point of trying to grasp an image of his true self in the mirror while his conscious self is not watching or being jealous of the version of himself that his wife is in love with) and realizes that he is simultaneously one, no one, and a multitude. Then nothing matters. By parallel, while narrative capital can be experienced as deeply personal, it contracts into nothingness when tied exclusively to one person—when it is not shared. Narrative capital is a collective phenomenon not just because it is produced in collective practices and negotiated with the collective language resources of a multitude of stakeholders, but also because it potentially touches and enriches the lives of many. The transformation of the high school that we have referred to would hardly be of much consequence if considered the sole adventure of the headmaster. Rather, the project gains its force precisely because it engages a broad array of stakeholders, not just other teachers, students, and their caregivers, but also those having a stake in developing a socioeconomically disadvantaged part of the city (Carlsen & Pitsis, 2009a), or exploring

new avenues of how the high school can fulfill broader societal missions, such as, for example, handling immigration well.

More principally, it is misguided to equate narrative capital with individual identity alone. Self-stories proceed from mind to culture as well as from culture to mind (Bruner, 1990, p. 108). Experiences from projects have multiple addressees and gain their momentum for that very reason. Project identities evolve alongside identities of organizations or individuals (Lundin et al., 2015, p. 106). Thus, projects may be sites for authoring stories of individuals within stories of organizations within stories of larger social wholes and struggles (Holland & Lave, 2001; Mills, 1959/2000), and self is always located in a social world (Berger, 1966). Winning a medal at the Olympics or turning around a high school are types of experiences that are likely to be attributed to the protagonist individuals involved and may leave lasting imprints in their life stories. Such experiences may also be attributed to a team (e.g., cycling team, team of teachers); an organization (e.g., a cycling association, the school as a whole); an industry or a city; a tradition (of training or pedagogy); or, even a nation. Thus, narrative capital, much like projects, resists a clear separation between individual and collective levels of analysis.

Recognizing the collective dimension of narrative capital of course also complicates matters. One cannot assume that the meanings that people derive from projects are uniform across stakeholders. Indeed, megaprojects, like getting ready for the Olympics (Pitsis et al., 2003) or building a high-speed train (Van Marrewijk, 2017), are often charged with politics (Flyvbjerg, 2014) that are partly due to variation of local interpretation—a symbolic multivocality (Van Marrewijk, 2017) that both adds to the potentials and complexities of meaning making.

In summary, our first three sections have emphasized a focus on the narrative of *why* projects, *what* projects, and a collective sense of *whose* projects. We have established that projects are sites for production of narrative capital through life enrichment; that the projects that are likely to matter the most satisfy fundamental needs for mastery, drama, purpose, and hope; and that narrative capital is a collective phenomenon that gains its significance from touching and enriching the lives of many. What are the theoretical and practical implications of this set of conceptions? How can one ensure that the narrative capital of projects is sustained, shared, and owned by many in a way that is also productive for project execution? The three remaining sections address these questions.

Expanding Ownership: Your and Our Projects

The American-South African biographical sports drama film *Invictus* tells the story of how the new South African nation under the leadership of Nelson Mandela experienced a moment of national transformation when the national team Springboks won the 1995 Rugby World Cup. Based on John Carlin's book *Playing the Enemy: Nelson Mandela and the Game That Made*

a Nation, it tells the story of how the Springboks team was not expected to perform well at the competition, having just returned to high-level international competition following the dismantling of apartheid. The Springboks were perceived as a redneck team that to many blacks represented prejudice and apartheid. In the movie, there is a powerful scene of the first major meeting between Mandela and the captain of the Springboks, François Pienaar. The meeting is in many ways a showcase of leadership through building high-quality connections (Stephens et al., 2012) and has at its core a set of open-ended questions: "So tell me François, what is your philosophy of leadership? How do you inspire your men to be better than they think they can be?" The meeting works as an invitation to join forces and make the Rugby World Cup a shared project, one that can build bridges, unite people, and inspire the nation. It succeeds; the project in many ways produced narrative capital for the larger project of reimagining the young nation (Farquharson & Marjoribanks, 2003).

This example and the previous three sections raise questions about the relationship between narrative capital and psychological ownership (Pierce et al., 2001) of projects and how such ownership is created. Previous research has suggested that attention to early comprehensive mobilization strategies is important to get projects right from the start, in terms of team formation and subsequent performance (Erickson & Dyer, 2004). Likewise, other research has suggested that project managers should focus more on ramping up their project team and "getting fat fast" in the early phases, rather than on containing project costs (Van Oorschot et al., 2010). Future research may ask whether and how the early phase mobilization and team building of projects can be key to not just immediate performance, but also may have a longer term positive effect in meaning making through building a specific form of ownership (Dawkins et al., 2017) in narrative capital.

Recent research on episodes of deep help in complex projects (Fisher et al., 2018) indicates that actually accomplishing something may sometimes be subordinate to ownership. In one of the examples in the study, the client of a design firm has been somewhat unhappy with early drafts. The project leader, Carole, asks a colleague outside the project, Richard, for feedback on a pitch to the client. The help comes in the form of a takeover: "After listening to the team's pitch, Richard returned to the project space with Carole and reworked it himself. He then took over the client presentation. The project was quite successful, but Carole viewed the episode as among the most negative in her career" (Fisher et al., 2018, p. 1532). We see this as speaking to how distorted ownership may diminish narrative capital; Carole makes a negative attribution from the project to her own professional life story.

Another set of questions concerns how narrative capital can be built by fostering ownership retrospectively. Research on creative work has pointed to the importance of marking progress, such as small wins, to boost motivation and performance (Amabile & Kramer, 2011) in subsequent innovation efforts. Facilitating the sharing of progress or success may have similar

functions in building collective self-efficacy (Bandura, 2000), fostering co-active vicarious learning (Myers, 2014), as well as providing narrative capital for both individuals and the collective. In any newspaper interview or presentation about the turn-around process, the headmaster of the high school would emphasize the story as a joint undertaking, and one that mattered for the city neighborhood. Moreover, he would typically put students in the center and emphasize examples of their growth and participation in building the school. Time and effort on expanding a sense of psychological ownership are crucial for building narrative capital, which in turn gives way to expanding connection.

Expanding Connection: Projects for the Other

Narrative capital stretches beyond the project as a time-bound event and beyond the organization. This implies that it is important to pay careful attention to and accentuate the ways that projects are made for others. The basic implication here is one of expanding connection by linking to stories unfolding outside the organizations. Projects that are made to matter do so because someone managed to demonstrate how they form part of extra-organizational development trajectories, be they disciplinary traditions, mythical structures, city development, or other larger social wholes (Carlsen & Pitsis, 2009b). Recent research suggests that making such connections is integral to work on ideas in complex projects, in effect part of what makes ideas matter in a field of ideas, whether a genre of filmmaking or regional geology (Coldevin et al., 2019).

A particularly vivid case of expanding connection can be found in a recent article on President John F. Kennedy's leadership of NASA in the 1960s (Carton, 2018). Kennedy used five strategies for sense-giving, each of which helped employees see a stronger connection between their work and NASA's ultimate aspirations, for example, through making distant aspirations more proximal, building stepping stones toward grand aspirations and linking these further to personal contributions of employees. When such connections were the strongest, employees construed their day-to-day activities not as short-term tasks ("I'm mopping the floor" or "I'm building electrical circuits") but as part of the pursuit of larger objectives ("I'm putting a man on the moon" or "I am advancing science").

Not all projects can be connected to the equivalence of moon landings. One larger lesson here is tied to motivational frames for action (Benford & Snow, 2000) that help people place their projects within larger stories where something vital is at stake, something that charges work with meaning. Examples include framing one's work—whether in a high school, an IT consulting firm, oil exploration, fishing, or communication work—as being part of life-enriching missions, battles, mysteries, treasure hunts, or cathedral building (Carlsen, 2008). Underpinning such motivational frames is the ongoing asking of a set of foundational questions: What is really at stake when venturing

forth? What kind of life-enriching adventure is this project part of, and how could that matter to us in the everyday?

All this said, it cannot be assumed that any form of expansive connecting or motivational framing may be beneficial for actors' lives or their performance. A failure to connect everyday work to high aspirations may make people dispirited or alienated with perceptions of insurmountable aspiration gaps, and making such connections is far from trivial (Carton, 2018), as Flyvbjerg's (2014) work on megaprojects suggests. Motivational frames may seem aggrandized or removed from people's understanding of their work activities (Carlsen, 2006), even mere fabrications (Goffman, 1974). Higher purposes need to be perceived as authentic (Quinn & Thakor, 2018) and have grounding in actual practice.

Tied to such controversies of motivational frames, we might also find a greater emphasis on the notion of project management practice, be it extraordinary or mundane, as a true craft. Richard Sennett's ideas of *The Craftsmen* fit such a narrative, where love and care for one's craft are reinforced in both how the profession is developed and also practiced (Sennett, 2008). Again, such a framing of one's work cannot be taken for granted. A travel through Sennett's classic book provides several stories of how a quest for profit maximization, undergirded by disenchanting performance indicators, disengages those who perform on projects from their *experiences* of performing. Plying one's craft with love and care is an ultimate show of respect to oneself and care for end users (Taylor et al., 2015). There is much research indicating that the framing and connecting that matter the most are the ones that establish how one makes a difference to the human other, whether immediate or more distant beneficiaries (Bolino & Grant, 2016). There is a rich tradition of research on the psychosocial construction of generativity, usually defined as adults' concern for and commitment to promoting the well-being of future generations (McAdams & Guo, 2015; McAdams et al., 1997). This is paralleled by growing research on prosocial behavior and the importance of prosocial motivation (Grant & Berry, 2011) as a major strand of individual engagement and identity formation (Bolino & Grant, 2016). This suggests further exploration of how project managers can activate motivation of a prosocial nature to simultaneously build narrative capital and boost performance.

For the headmaster of the high school, the authenticity of the motivational framing of the transformation project was helped by at least three sets of processes. First, his colleagues described him as repeatedly calling them into battle against competing high schools in more advantaged parts of the city, including constantly marking and celebrating progress in competitive indicators such as dropout rates and applications. Second, a steady stream of new innovation efforts in pedagogy, school activities, and school organizing brought credibility to high aspirations, thus amounting to concrete stepping stones (Carton, 2018) and achievements that connected to higher aspirations. And, third, the craft of caring for the singular student as an animating master frame was evident in all parts of school

activities. This, for example, took the form of schemes for elaborate social onboarding, investment into varied student social activities, greeting conventions (all staff were expected to personally greet any student they met during the day), conflict negotiations (where the headmaster would invariably side with students), as well as practices of emphasizing and celebrating student entrepreneurial projects and student reviews. As a manager remarked after a presentation by the headmaster, "He [the Headmaster] is simply so proud of and emotionally moved by the students in all these activities. Then we are moved too." At the heart of the narrative capital were strong perceptions that the transformation project was authentically for the student other.

Extending Possibility: Open Projects and New Beginnings

Narrative capital grows with open rather than closed stories. Around 10 years after our headmaster entertained the idea of leaving the hopeless school with a heart attack, the school emerged as the uncontested winner of the annual competition for student applications (an outcome that is critical for allocation of public resources), and also shattered the national record for applications. Upon learning of this, the headmaster recognized a dilemma of having attained a major goal: 'It's a bit like Bob Beamon having made that jump [the 1968 long jump at the Olympics in Mexico, a record that would stand for four decades], walking back and forth, staring at the pitch in disbelief, knowing he would never surpass it—what's next?' (Carlsen & Pitsis, 2009a, p. 92). We understand this statement to mean that the headmaster realized that the battle against rival high schools and the hopes for goal attainment were about to lose their life-enriching functions. In the wake of temporary emptying attainment-hope, a search for sustaining the narrative capital of the school transformation project necessitated the extending of possibilities.

By extending possibility to sustain narrative capital, we mean two sets of things. One is the notion of opening up. Alongside the need for living with purpose and hope for goal attainment, is an at least equally strong need for indeterminacy and openness in people's lives (Carlsen & Pitsis, 2009a; McAdams, 1993), including a belief that the future is open ended, fraught with generative possibilities, and can be influenced (Ludema et al., 1997). Striving for goal attainment in itself can be trapping. From a perspective of meaning making, this suggests attention to balancing purpose and openness in singular projects or in a portfolio of projects. Other things being equal, this favors organizations that can engage their employees in a varied set of projects, some set on very specific purposes and deliverables, others representing the glory of the clean sheets and new beginnings.

Extending possibility may also mean a process by which one seeks to replicate some aspect of past successful experience and follow up on the trajectories for development that are opened up or can be inferred from these experiences. This may

involve instantiating experiences from past projects as desired exemplars of what could be (Carlsen, 2006). Or we may think along the lines of experiential surfacing (Nilsson, 2015) of episodes from projects that involve particularly notable or desirable experiences for beneficiaries. In this way, sustaining narrative capital involves telling stories of prior innovation projects, so that they work as a generative memory for the next adventures (Garud et al., 2011)—extending entails drawing upon the successful past in reflective and creative use of prior experience to meet evolving desires and purposes (Alexander, 2013).

Conclusion

We are projects because selves are distributed across contexts of participating in practices that are increasingly organized as projects, and because some such participations enter individual and organizational life stories. We are the projects that enlist our imagination, whether looking back at the stories of what was or the ones that orient our lives in the present of things future. We are the projects that matter not only to ourselves but that also touch the lives of many and enter into larger causes and struggles. Because we are our projects, project managers have unique opportunities to facilitate meaning making that can be powerful for people, projects, and organizations alike. These mechanisms for meaning making are about building narrative capital and are greatly under researched in project management literature.

We have charted three sets of practices for building narrative capital, each with further implications for research and practice. One is inviting people into adventure and sharing outcomes so that people feel they are somehow participants or protagonists in the project story/ies and thus gain psychological ownership. Another is to connect the stories of the project to larger causes and struggles outside of its proximate task-oriented sphere, and to the more mundane realities of everyday practice. Such connections, while always questioned for their authenticity and legitimacy, seem particularly important when they involve making a difference for immediate and distant beneficiaries. A third is to continue to keep projects open, balance participation over a portfolio of projects with varied demands of goal orientation and open-endedness and to lift stories from the projects that mattered so that they can represent a generative repertoire of new beginnings, other projects we can become.

Further research will be needed to deepen and nuance these narrative practices. And while we have emphasized narrative capital as a largely positive phenomenon (that may be untrivial to create), we have merely hinted at its potentially negative nature as being either narrowing and trapping (in terms of reflecting stories lacking openness), inauthentic (and thus of little value), or even shaming and a threat to identity. Projects that were once charged with meanings of progress and hope may evolve into being symbols of failure (Van Marrewijk, 2017), and stories of a troubling past may be reiterated to close

down possibilities. In this sense, the concept of narrative capital has a clear parallel in research on agency (Cooren, 2018; Välikangas & Carlsen, 2020) as a temporal-relational phenomenon that needs to be explored as ongoing collective *acts* of narration more than reified properties of social affairs. When looking backward, remembering may or may not be done is such a way that action repertoires from the past are located and mobilized. When looking forward, imagination of higher ends and new possibilities may or may not be well enough connected to people's challenges in the everyday.

The overall message for project managers nevertheless seems clear: Cultivating narrative capital means, first of all, to invite conversations about the stories our projects are producing: What is really at stake? What do we want to achieve? Why and how could this project matter to you, us, and others when looking backward and forward in time? What's our story now?

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Notes

1. When revisiting this example throughout the article, we build on the article by Carlsen and Pitsis (2009a) and our continued research on the same organization by the first author. This has involved a series of interviews and talks with the headmaster, as well as repeated site visits at the school and informal conversations with teachers and students over the last 10 years. We use this example in a strictly illustrative manner.
2. It is beyond the scope of this essay to provide a complete inventory of how narrative capital relates to associated constructs of psychological capital, social capital, and cultural capital, but we would like to make a few remarks. First, psychological capital (Luthans & Youssef-Morgan, 2017) has typically been explored as an individual-level construct and while it has recently been developed as a collective phenomenon (Dawkins et al., 2015), it does not incorporate either consideration of meaning making or identity from a temporal perspective of experience (Carlsen et al., 2012). Second, cultural capital carries a treatment of temporal tensions of how people's capacities to project forward are conditioned by their prior or sociocultural habitus, but this is a concept that is more directed at understanding social differentiation (Bourdieu, 1986; Robbins, 2005) than identity-related growth through meaning making. Finally, social capital is roughly understood as the goodwill (Adler & Kwon, 2002) and resources that inhere and flow in networks of social relationships (Baker & Dutton, 2007). While narrative capital has a social dimension, it is more concerned with the temporalities of remembering and anticipating in meaning making than in the ongoing production of relationships.

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The Worthy Human Being as Prosument Subject: ‘Projectified Selves’ in Emancipatory Project Studies

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Abstract

The *projectified self* is suggested in this article as a way to advance emancipatory project studies toward improved understandings of how individuals in contemporary neoliberal societies are urged to become self-controlling, self-improving, self-commercializing, life-compartmentalizing, and deadline driven. We propose (1) a developed theoretical foundation for studies of the projectified self, based on recent writings on *enterprising selves*, and (2) the notion of *prosumption* as a concept for how the worthiness of this projectified self is constructed in a simultaneous process of project-based production and consumption. This is discussed in relation to the on-going studies of social media entrepreneurs.

Keywords

projectification, projectified self, entrepreneurial self, enterprise culture, neoliberalism, prosumption, worth

Introduction

In this article, we develop the concept of the *projectified self* (originally coined by Kalff, 2017) as a way to study and analyze how individuals in contemporary neoliberal societies are attracted to and urged to identify with the culture of projectification and the consequences thereof. We suggest that such a conceptualization may advance emancipatory project studies (Geraldi & Söderlund, 2018) to help better understand how life is projectified and how emancipation is conditioned. The projectified self is an expression of the cultural values inherent in the projectified neoliberal society, in which individuals' worth is dependent upon their ability to produce and consume themselves and others as self-controlling, self-improving, self-commercializing, life-compartmentalizing, and deadline-driven human beings. Our work is based on recent writings on selves in neoliberal societies vividly discussed in sociology (Bröckling, 2005; Rose, 1996), organization studies (Gay et al., 1996), and in critical entrepreneurship studies (Dey, 2014). From these writings, we suggest that emancipatory studies of projectification may move beyond its interest in how individuals work by projects, and focus on how and why and with what consequences individuals identify with the cultural notion of projects and how they make themselves and others *a project*.

For individuals in neoliberal society, projects have come to be an unquestioned vehicle to organizing reality, a rational scheme of life, and a particular way of forming a relation to the self and others (Cicmil et al., 2016; Jensen et al., 2016). Current critical theorizing in project studies on conditions for

individuals has indeed acknowledged projects as an aspect of identity work (cf. Hodgson, 2005; Kalff, 2017). At the same time, however, these analyses often tend to relate these conditions mainly to project-based work and project management as a general discursive formation (cf. Cicmil et al., 2016; Lindgren, Packendorff et al., 2014) rather than to the underlying political/cultural values in contemporary societies. In parallel, sociological analysts of contemporary neoliberal societies have for long claimed that its citizens are increasingly becoming part of an *enterprise culture* in which notions of employability, flexibility, project orientation, and individual responsibility are central to the ways in which we gain and prove our personal worth (Chiapello & Fairclough, 2002; Keat, 1991; Kelly, 2013). Contemporary culture is one that urges us to assume new identities, such as an entrepreneurial employee, manager, entrepreneur, parent, or retiree (Whiting & Pritchard, 2018). These authors discuss individuals' identification with such conditions in terms of *enterprising selves* (Rose, 1999), here a concept

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that we will build on and extend in order to advance the research agenda in emancipatory project studies.

Drawing on the literatures on enterprise cultures, we posit that societal projectification does not only urge individuals to embrace project-based ways of working, but also puts them in a situation where they are increasingly compelled to run their lives as a project and view themselves and others as a project. Through societal projectification humans are invited and urged to work on themselves to become projectified selves—to be in a constant state of improvement, achievement, and beautification (Bröckling, 2016). We therefore view the projectified self as a continuation of the enterprising self; a more refined subjectivity perpetuated through *prosumption*; in other words, the on-going production of a public self that simultaneously proves its *worth* and is consumed by others (Ritzer & Jurgenson, 2010; Charitsis, 2016). The one who can lead and manage his or her life as a well-functioning and attractive project can also become worthy and highly valued in a society driven by and through projects. While this can be seen as an emancipated life in its own right, it is at the same time only made possible through succumbing to the notion of active, responsible, self-improving, independent men and women as the ideal citizens in contemporary neoliberal society.

To better understand how the projectified self can be analytically useful, in this article we provide examples of personae who have proven worthy and highly valued in these respects—social media entrepreneurs, whose business activities are based on their constant and transparent sharing of their personal lives on the internet. Their subjectivities as presented online evolve through a life consisting of various projects and through identification with project-like conditions (Kalff, 2017; Wood et al., 2019). Not only are their lives organized as a series of projects, they also become who they are as projects; their personal worth in neoliberal society is defined through their ability to produce themselves as projects and to be consumed as projects.

In line with the overall theme of the special issue, this article is organized as a conceptual discussion and exploration in order to identify future research agendas in project studies. We start by locating the projectified self in previous sociological literatures on societal development and change that have emphasized the notion of projects as a human condition (Jensen et al., 2016) in contemporary neoliberal society. We draw not only on the well-known conceptualization of the project-oriented *cité* suggested by Boltanski and Chiapello (2005) but also, as mentioned above, in the critical sociological literatures on historical developments of neoliberal society and enterprise culture (Bröckling, 2016; Kalff, 2017; Rose, 1996). We point out that these latter literatures assist us in better understanding the historical/cultural milieu of projectification (the enterprise culture), and urge us to remember that projectified selves gain worth from organizing themselves as enterprises (*prosumption*). We then illustrate and exemplify how the notion of the projectified self can be subject to empirical inquiry through an on-going study of social media profiles, and conclude by

identifying theoretical strands for further exploration in emancipatory project studies.

Locating the Projectified Self in a Neoliberal Projectified Society

Our suggestion to study the *projectified self* as a subject position in neoliberal society by which individuals are invited and urged to improve themselves, is based in discussions on societal change and transformation that have been going on in management studies and sociology for almost 30 years. It is a discussion that has evolved around how cultural, technological, and economic developments in society will result in new ways of organizing political governance, business management, and also our personal lives—often resulting in new conceptualizations such as the network society (Castells, 2000), the post-industrial society (Touraine, 1971), or the neoliberal society (Dardot & Laval, 2014). These discussions have recently also appeared within project studies, as scholars have turned increased attention to the macro-context of projectification and its impact on economies, industry sectors, and organizations (Geraldi & Söderlund, 2018; Lundin et al., 2015).

An emergent stream of literatures both inside and outside the realms of project studies has focused on how societal projectification may impact conditions for the individual. In their well-recognized discussion on the historical development of cultural and political modes of understanding and justifying reality, Boltanski and Chiapello (2005) claim that a new *justificatory regime* is emerging in contemporary society—the *project-oriented cité*. In comparison with the six historical *cités*—which were based on, for example, religious beliefs, bourgeois civil society values, industrial logics, or market mechanisms—the project-oriented justificatory regime puts primacy on activity, project initiation, and social networks as basic tenets of societal activity.

Central to Boltanski and Chiapello's (2005) notion of *cités* is that they imply different ontologies' *worth*, in other words, what it entails to be and become a person who strongly embodies and adheres to taken-for-granted values in society. The successful and worthy citizen of the project-oriented *cité* is thus described as an adaptive, flexible, and connective team player, able to generate enthusiasm and handle multiple cultural traditions, always prioritizing availability, employability and new projects over social stability and lifelong plans (cf. also Chiapello & Fairclough, 2002). Based on this reasoning, scholars have highlighted the risks and vulnerabilities associated with, for example, individual responsibilization in project-based work (Ciemil et al., 2016; Packendorff & Lindgren, 2014); the importance of networking and crafting one's own life and career (Jensen et al., 2016); the importance of projects as instances of governmentality (Bröckling, 2016; Kalff, 2017; Müller et al., 2014); and the emphasis on collaboration and collaborative techniques in work life (Barondeau & Hobbs, 2019). The tenets of the projectified society identified in these literatures are summarized in Table 1.

Table I. Summary of the Core Tenets of Individual Worth in Neoliberal Projectified Society (Developed From Barondeau & Hobbs, 2019)

Core Discursive Aspects of Societies	Values of the Projectified Society (Built on Boltanski & Chiapello, 2005; Bröckling, 2016; Jensen et al., 2016; Kalff, 2017; Barondeau & Hobbs, 2019)	Additional References
Higher common principles in the societal context	Activity, projects, extension of the network, proliferation of connections, individual responsibility, economization, self as enterprise	Berglund, Lindgren et al. (2017)
State of individual worthiness and greatness	Engaged, engaging, enthusiastic, involved, flexible, adaptable, versatile, having potential, employable, autonomous, rational, know how to engage others, in touch, in control, tolerant, employability (providing), authentic, un-provoking, un-controversial, self-regulating	Berglund, Lindgren et al. (2017); Chiapello and Fairclough (2002); Pongratz and Voss (2003); Rowlands and Handy (2012); Whiting and Pritchard (2018)
Dignity	Being a responsible prosumer: The need to connect, the need to be useful, the need to provide usefulness, the need for self-improvement	Bröckling (2005)
Subjects (typical personae)	Mediator, project manager, coach, expert, customer, supplier, innovator, consumer, influencer, entrepreneur, intrapreneur, celebrity	Berglund, Lindgren et al. (2017)
Objects used by these personae in daily practices	New technologies, informal relationships, relationships of trust, partnership, agreements, alliances, subcontracting, networks, links, projects, plans, business plans, business models, websites, social media	
Investment by the individual to become worthy	Adaptability, identity/subject positioning (as always open to change).	Berglund, Lindgren et al. (2017)
Relation of worth	Connecting, communicating, coordinating, adjusting/adapting to others, trusting, subverting, glossing over (conflicts).	Cremin (2010); Peticca-Harris et al. (2015)
Relationships	Putting in contact, redistributing, information, integrating into networks, providing employability, friendly (on the surface), collaborative (on the surface).	Rowlands and Handy (2012)
Organizational figure	The network (in contrast to hierarchies and clans).	
Test of worthiness and greatness	Delivering projects, starting and conceiving new projects, ventures, ideas, and debates	Cicmil et al. (2016); Rose (1996)
Judgment and evidence of worth	Being called upon to participate, fame, receiving attention, recognition, and admiration	Berglund and Skoglund (2015)
The fall—how worth is lost	Closure of the network, corruption, privileges, mafia, becoming forgotten, becoming unrecognized	Cicmil et al. (2016)
State of unworthiness (vulnerability)	Unadaptable, does not inspire confidence, authoritarian, rigid, intolerant, immobile, local, rooted, domestic, attached, status (fixed one), security (prefers), without projects, without consumption, without recognition	Cicmil et al. (2016); Peticca-Harris et al. (2015); Berglund et al. (2017); Whiting and Pritchard (2018)

Projectified Selves and the Pursuit of Worth

Given the above characterization of the basic values and norms of the projectified society, we now turn to the question of how individuals position themselves within these values and norms and how they lead their lives and strive to preserve and increase their worth. In order to take such a discussion further, we thus need a theoretical perspective that does not only identify the emergence and main tenets of the neoliberal projectified society, but also strives to conceptualize how individuals construct themselves and their lives as projects. According to critical sociologist, Bröckling (2016), such a conceptualization can be found in the literatures on enterprising and entrepreneurial selves.

The literatures on *enterprising and entrepreneurial selves* (here we use the terms interchangeably) emerged in the early 1990s in the wake of Thatcherist reforms in the United Kingdom (cf. Keat, 1991), and were influenced by Michel Foucault's writings on how power, subjectivity, and modes of governing have changed over the course of history (e.g., Lemke, 2001). Accordingly, this *self* took shape from the Enlightenment ideal of the *Man of Reason* to today's *Homo Economicus*. Through the evolution of modernity this *self* has taken different shapes and been molded into today's entrepreneurial self: the entrepreneur of the self who no longer asks how he or she can benefit from society but who is spurred to take responsibility by asking what he or she can do

for society. In a neoliberal society, the roles and responsibilities of the citizen have thus changed from claiming entitlement to particular rights guaranteed by the state to actively and entrepreneurially participating in solving problems themselves (Berglund & Skoglund, 2015). This implies giving one's life "a specific entrepreneurial form" (Lemke, 2001, p. 202) through customizing one's self into an active, responsible, and creative actor in the market economy (Grey, 1994).

Consequently, the notion of the entrepreneurial self is no longer connected only to the traditional entrepreneur who starts a new company or a new project but also to the very embarking on life as an entrepreneurial project (Kelly, 2013; Rose, 1996). In that sense, the entrepreneurial self has come to form a background against which we attach worth to human beings in contemporary society (Cremin, 2010; Gay et al., 1996; Fournier, 1998). This involves a kind of productive power that does not demand us to do something, but rather that can be described as enticing, friendly, and productive as it works through us (Bröckling, 2016). Earlier studies of such subjectification show how individuals in neoliberal society strive for improvement, freedom, and developing their potential (cf. Costea et al., 2012), while concealing their insecurity and vulnerability (Scharff, 2016).

To summarize the argument thus far, the projectified self builds on the enterprising/entrepreneurial self and comes as part and parcel with the idea of a society where personal worthiness rests upon our subjectification as autonomous, self-regulating, enterprising, and rational (Barry et al., 1996; Cremin, 2010). This self fits well into the enterprise culture since it adapts to change and aligns itself with prevailing market conditions (Grey, 1994; Harvey, 2000; Kelly, 2013). What is celebrated is a self-controlling, self-commercializing, self-rationalizing (Pongratz & Voss, 2003), affective, caring, ethical (Vrasti, 2012), self-driven, and self-organized human being who runs his or her life as a project (Bröckling, 2016; Kalff, 2017; Rose, 1996).

Studying Prosuming Projectified Selves

The consequences of the developments presented earlier had already been discussed by Rose (1996), who expounded on how "contemporary individuals are incited to live as if making a project of themselves: they are to work on their emotional worlds, their domestic and conjugal arrangements, their relations with employment and their techniques of sexual pleasure, to develop a 'style' of living that will maximize the worth of their existence themselves." (p. 157) The sequencing of work thus demands maximum flexibility of the projectified self who has not only to span between an intense mode of self-organizing to high degrees of cooperation (Barondeau & Hobbs, 2019), but also to manage different projects and their potential overlapping, clashes, and opportunities for coordination (Bröckling, 2016; Jensen et al., 2016). There is a constant need for the projectified self to negotiate his or her project plans as if he or she

is an enterprise. A parable can be made with the self as the parent company, where the project becomes the subsidiaries. Similarly, to the descriptions of the entrepreneurial self, the projectified self becomes both its own boss and subordinate, and its own supplier and customer:

"...by applying the principle of intrapreneurship to himself and splitting himself up accordingly: as, "customer of himself", he is his own king, a being with needs that are to be recognized and satisfied by the "supplier of himself". If the latter ignores the demands of his internal business partner, this partner will chasten him with lethargy, exhaustion or other forms of energy deprivation. If the exchange works well, however, both profit from it." (Bröckling, 2005, p. 13)

This involves not only accomplishing specific tasks through projects and being on the alert for new potentially interesting and valuable projects that can be integrated into the project portfolio—it also requires an intricate negotiation with self's demands as customer/producer. To gain worth, success, and admiration in such a life, one must display optimism and action orientation and identify oneself with the successful and admired in society rather than with the socioeconomic context in which one is currently situated (Gill, 2014). Again, this points to the centrality of *prosumption*; in other words, that the projectified self must at one and the same time put an attractive mix of characteristics on display and make sure these are recognized and appreciated by others.

Prosumption has traditionally been used as a descriptive concept, sometimes with normative appeals, to describe how new markets can be enacted in more inclusive ways through participatory web cultures (Beer & Burrows, 2010) where consumers can craft products for their own use (Campbell, 2005). However, prosumption has also been discussed in critical consumption studies, as an aspect of the governing of producers/consumers and a signifier of marketing becoming biopolitical (Skålén et al., 2008; Zwick & Bradshaw, 2016). These literatures point out how capitalism is taking on new forms as prosumption intensifies by becoming more and more entangled in all facets of life. With this comes the need to ask new questions. Ritzer and Jurgenson (2010), therefore, stress the need to understand how prosumption makes capitalism take on a different guise. In their view, this is implicated with "a trend toward unpaid rather than paid labor and toward offering products at no cost, and the system is marked by a new abundance where scarcity once predominated" (Ibid., p. 14).

Projectified Social Media Profiles: Glimpses From an on-Going Study

In this section, we will provide an example of the type of empirical landscape in which the projectified self can be studied. Given the *on-going* status, this is neither an exhaustive nor a final portrayal of the study. Nevertheless, we use it to conceptualize the projectified self's relation to prosumption and worth. To study some of the above outlined consequences of the projectified self,

we have turned to social media entrepreneurs as sources of examples of how projects become integrated with identity within the enterprise culture.

Social media offers spaces for networking by facilitating digital sharing and exchange (Kaplan & Haenlein, 2010), which have opened up marketplaces for entrepreneurs (Turan & Kara, 2018), and where the traditional boundaries between participating in a friendly dialogue and being targeted as a consumer have become highly blurred. These days, the notion of social media covers everything, including blog posts, podcasts; posts on major platforms, such as Instagram or Twitter; and offers a new terrain for a new breed of *influencers* to capitalize on a wide range of topics, including fashion, culture, technology, family, gender equality, career, self-improvement, and so forth. Thus, through social media a new arena for persuasion has emerged (Lanham, 2010), involving a new rhetoric (Ge & Gretzel, 2018), increased possibilities for everyone to become an opinion leader and participate in the personalization of politics (Bennett, 2012), and much more heterogeneous and dynamic conditions for organizational reputation building (Etter et al., 2019). Some recent examples of these are beauty/fashion influencers, such as Huda Kattan and Chiara Ferragni; self-improvement and fitness advocates, such as Michelle Lewin, Lilly Singh, and Amanda Cerny; and creative humorists, such as Zach King and Andrew Bachelor—all of whom have tens of millions of followers worldwide. In addition, social media is also utilized for political activism (e.g., Tarana Burke's #metoo movement, actress Emma Watson's #heforshe campaign, or the anti-racist #blacklivesmatter movement) as well as for propelling the existing fame and fortunes of celebrities,

famous entrepreneurs, and powerful politicians, including Kim Kardashian, Richard Branson, and Donald Trump.

In this terrain entrepreneurs have acted upon this *new economy* and built up multifaceted businesses around their personae—centering on a constant sharing of their personal lives combined with positioning themselves as socialites and experts on matters such as fashion, interior decorating, media trends, travel, and entrepreneurship. Clearly they are not the ones most at peril in the projectified society, but they are at the same time forerunners and inspirators for a young generation in search of values to project one's ambitions onto. The example of social media entrepreneurs makes up an extreme case (Flyvbjerg, 2006) that facilitates the study of how the projectified self is advanced in contemporary enterprise culture.

For the purpose of this article, we have selected three cases (see Table 2) from one of the many recurring ranking lists in the social media sector in Sweden. These cases are part of a wider ongoing study, carried out by a research team that has been following social media entrepreneurs in various media outlets since 2017. The material consists of a collection of blog posts, transcriptions from podcasts, other (social) media clips that portray the entrepreneurs followed, along with the involved researchers' observational notes conducted over time. The analytical process involves both individual reflections; jotting down analytical points; and collective analytical work, where the analytical points and relevant empirical material have been juxtaposed by putting the cases next to each other, making it possible to see one case through the characteristics of the others and vice versa (Marcus & Fischer, 1986; Sørensen, 2014). This has facilitated the process of

Table 2. Selected Social Media Cases: Main Characteristics

Personae (Anonymized)	Anna and Asta: Journalists, Socialites, Mothers, Fashion Experts	Bert and Benny: Journalists, Socialites, Authors, Fathers, Performance Artists	Carla: Entrepreneur, Socialite, Investor, Mother
Outlets	Podcast, blogs, books, stage shows, TV appearances, Instagram flows	Podcasts, books, stage shows, newspaper chronicles, clothing line, Instagram flows	Blog, books, interviews, Instagram flow, beauty products
Typical contents	Anna and Asta's life in real time; fashion advice to the modern, working woman; stories about shopping, family life, global travel, and home decorating	Benny and Bert's life in real time; philosophical and humoristic reflections over self and life in general; stories about historical/political events; their childhoods; travel and dining out	Carla's life in real time; her continuous reflections over business events, lavish consumption, family life, global travel; stories and advice on entrepreneurship, investments, and leadership
Foundations of prosumption and worth (self as simultaneously being produced and consumed through social media interactions)	Expert, trendy, aesthetic, business-minded, journalist; well-connected, well-heeled, well-resided, well-related, traveler, invited, gregarious, re-decorating, self-improving, self-securig, family-oriented mothers	Philosophical, witty, nerdy, transparent, cultural, journalist; well-read, well-connected, well-resided, well-related, traveler, invited, prone to conflicts, self-improving, family-oriented fathers	Expert, entrepreneur, hard-working, businesswoman; well-organized, luxurious, well-connected, well-resided, ambitious, role modeling, transparent, influential, traveler, invited, re-decorating, leader, self-improving, independent mother
Empirical material analyzed	Transcripts from podcasts, blog texts, Instagram posts	Transcripts from podcasts, chronicle texts, Instagram posts	Blog texts, Instagram posts, interviews

conceptualization and discerning the need for applying new theoretical concepts built on prosumption and worth. In the process of defamiliarization, the concepts of responsibilization and neoliberal understandings of gender structures appeared to be important for the study of the projectified society—implying future development possibilities related to literatures on, for example, responsibility and postfeminism in organizations.

The base of these media entrepreneurs' operations is typically a blog site and/or a weekly podcast, expanded by all sorts of other activities (e.g., Instagram flows, book publishing, television shows, stage performances, beauty products, clothing lines, and magazines). Blogs and podcasts at this level (i.e., six-digit number of individual listeners, which is at the same level as the leading daily newspapers in Sweden) are highly profitable operations; the cost of production and broadcast is very low, and the revenues from advertising and sponsor partners may sometimes exceed US\$1 million per year. The different technologies allow for frequent updating, because their podcasts are published on a weekly basis, whereas posts on blogs and Instagram are made several times per day. In all of the three cases studied, incomes are obviously reinvested into extravagant lifestyles from which the entrepreneurs can draw additional material for future blog posts and podcasts. The world constructed in these three cases is a fragmented and eventful world to embrace, a world consisting of opportunities, creative collaborators, and an incessant flow of new projects and activities.

[Carla, blog post]

Carla endorses "Rose," a new producer of a lingerie brand, which simultaneously makes it possible for Carla to produce herself as both more luxurious and practical (there is a complimentary bag for the pants). In this post, Carla achieves several different purposes. She presents herself as a consumer of the new brand: "I have changed all my underwear to [Rosy Pants] now!" The post is written to entice her readers to follow her example and also buy Rose's product. However, Carla not only recommends Rose, she also lets her become a role model of the desired entrepreneurial orientation to life—it makes her so happy when women start businesses. Rose, Carla, and the followers of the blog are at the same time positioned both as consumers and producers—as projectified selves who continuously need to improve their worth through prosumption. This projectified self needs to juggle not only the project of work or of life, but also to manage herself as a project that needs to be simultaneously produced and consumed. To remain attractive to the social media market, the projectified self needs to fashion herself with new accessories that distinguish her uniqueness, but this uniqueness is also produced for others to consume. Therefore, the projectified self constantly needs to be on the move, since the *business model* requires an incessant working on the self as unique and authentic.

To sustain life, the projectified self needs to recruit his or her followers to live life in a more projectified and prosumptive way. Blog posts from Carla, along with other female social media entrepreneurs, often revolve around fashion, lifestyle, careers, and entrepreneurship, which are mixed into postfeminist tropes found to have a tremendous impact on younger generations as coveted inspiration and disguised coaching (e.g., Duffy & Hund, 2015). The female entrepreneur who starts up and manages her own company is entwined with the assertive entrepreneurial woman who dares to express her femininity and *can do* attitude (Gill, 2007; Lewis et al., 2017). Carla presents herself as a symbol of equality, the emancipated woman, and a role model to follow. Carla, along with Asta and Anna, indeed recognize societal problems as gender inequality, but it is a fight to be won through successful competition in the marketplace by including and coaching more women with feminist aspirations (Berglund, Ahl et al., 2018). Successful competition requires the projectified self to keep up to date, looking for new products, network with new entrepreneurs but, paradoxically, also to remain within the boundaries of a de-politicized *can do* gendered subject who promotes equality without focusing on current social structures.

For the projectified self, there is no market out there to be conquered. Rather, the market is anywhere, everywhere, and entangled with the mundane. In dialogues, Anna and Asta discuss entrepreneurship as a way of successfully linking together work and family life; making the right, rational choices irrespective of what others may think; and becoming liberated from everyday life through consumption. In the following extract, "the most gorgeous desk ever" spurs them to consider the start-ups of new projects:

Social Media Entrepreneurs—Prosumption and Worth

What unites the social media entrepreneurs we have studied is that they all convey an optimistic project orientation in life. These entrepreneurs promote enhancement of self-confidence and well-being through the consumption of fashion, accessories, travel, exclusive food, spa treatments, or socializing with famous friends. However, their consumption of something also involves a marketing—or production—of the self, continuously making it more attractive, interesting, luxurious, and thus worthier. Carla's blog post illustrates how consumption and production become intricately woven together:

Something that always makes me happy is when women choose to start their own businesses. To hear about their big ambitions and offer support along the road. Today I had lunch with [Rose] and [Richard] in their house. Rose has started her own lingerie brand called [Rosy Pants]! They remind me a bit about Hanky Panky but the quality is much better and they cost less. I have changed all my underwear to [Rosy Pants] now. I am so thrilled! Fantastic fit, and feels incredibly luxurious. I also love the idea with a complimentary bag for the pants. When I am travelling, I have always used a dust bag for shoes for my underwear but now I have this one. Wonderful colors, too. Keep up the good work, [Rose]! I really hope you are discovered by the whole world now!

Anna: I just love that today we are recording this podcast sitting by a fantastic piece of furniture!

Asta: Yes, by the most gorgeous desk ever! [a designer item from the 1950s recently purchased by Anna]

[Anna tells a story about how she was interviewed by another famous influencer and discussed the unimportance of if furniture is classified as *antique* or *vintage*.]

Anna: But the point is that it's an old but renovated desk with provenance...

Asta: ...and then I start to think about who has used this desk before. I think it was a real power woman—such as you Anna!

Anna: Yeah, maybe! Cool!

Asta: I want to think like that anyway. Now I also want a desk. This might be the start of me working from home. I am really bad at that. You know, when I came in here and saw the desk, I said to myself: This. Is. The. Start. Of. My. New. Book!!!

Anna: Wow, you thought like that??? I'm so inspired hearing that!

[Anna and Asta, podcast]

In this dialogue, a desk is no longer a desk, but becomes a symbol of a *power woman*. Anna appears as a greater and improved self after this acquisition, and Asta is spurred to buy a similar desk herself to get inspiration to start up the project of writing a new book. This example illustrates how the projectified self—in the case of Asta—submits to a negotiation with her internal team members—or the CEOs of her internal subsidiaries (Bröckling, 2005)—admitting her productivity problem while also suggesting a solution. This very negotiation, we posit, is implicated in the intensification of prosumption, where the projectified self constantly needs to think both as a producer and consumer. Buying a desk can result in the production of a book, which, in turn, can lead to a greater self and new avenues for prosumption. The book project can be combined with subsequent projects, such as book releases, invitations to television shows, meet-and-greet events with followers, meetings with new entrepreneurs, and thus new prosumptive opportunities. And, so, the wheel is spinning: prosumption propels the projectified self to advance and involve both centrifugal and centripetal powers. On the one hand, it facilitates the projectified self to create markers that distinguish the self from others, making the self a *unique* product to be consumed in the social media market. On the other hand, it also involves others following suit—the projectified self not only sells him or herself, but also a (partly) accessible way of living. To stay ahead, however, these social media entrepreneurs need to be constantly on the go and be prepared to add themselves to new prosumptive opportunities.

Not surprisingly, social media entrepreneurs display a high degree of awareness that someone is always reading and listening and that their online persona/brand is not entirely controlled

by themselves but also by the communities they address (cf. Paschen et al., 2017). They engage in constant dialogue with their followers; they come up with new activities, ideas, and provocations to keep the dialogue going. Most of their professional and private lives are on display, and we are also subjected to their inner thoughts and emotional reactions to things that happen in relation to their spouses and children—sometimes provoking harsh online reactions that in turn generate new material. This closeness, which is being built up as their personae are being consumed by their followers, is of course also employed in every podcast to convey recommendations to the very same followers regarding consumption opportunities elsewhere. None of them hesitates to label themselves professionally in a multitude of ways depending on the situation: they talk about themselves as bloggers, fashion experts, stylists, entrepreneurs, entertainers, journalists, and influencers and describe a hectic social life they share with other such professionals. Being occasionally overworked is a signifier of passion for entrepreneurship, almost an aesthetic statement in performing the presumptive made-up'ed, made-over'ed life of the projectified self:

You, who followed my recent Instastory (soon a quarter of a million followers there, yippee!), saw that my yesterday became quite long. When we landed in Madrid at 8:30 p.m. my luggage was lost so I went directly to meet my wonderful friend [Andrew], founder of [global cellphone accessory company] at the restaurant. He happened to be in the same town; he has 200 travel days per year so we try to meet occasionally. I haven't seen him since I was in Cannes. I am so grateful to be able to spin ideas together with someone who is a step ahead of me.

By 1:00 a.m., the airport called and had found my luggage. I could have picked it up in the morning when taking my next flight to Milan, but I felt like having my things close, so I took a taxi out there and fetched my bags. Slept like a log back in my room by 2:30 a.m. I love this hotel but I did not get to see much of it, not even the breakfast. The taxi arrived at 7:30 a.m. this morning to take me back to the airport, so I just slept as long as possible. I had planned to go to the fitness center in the morning, but I took the liberty of sleeping those extra 30 minutes instead.

[Carla, blog post]

Carla presents herself as the super-effective individual, the one who stretches herself to the limits, but who has acquired the skills of combining the effective ethos of the projectified self with the pleasures this life also brings. A dinner with a friend is not only a moment of relaxation and pleasure, but also an opportunity to spin new ideas. Practices of prosumption are always present, and veil the paradox of the super stressful yet enjoyable life of the projectified self. Problems are tackled with a positive *can do* attitude; people in their vast networks are described as sometimes marvelous, lovable, generous individuals who inspire them, and sometimes as exciting villains.

If entrepreneurialism has become a signifier of the postfeminist female subject—active, self-made, self-improved, rising through shattered glass ceilings by means of attention to details, explicit business models, and collective girl power—then masculine entrepreneurship is disguised behind nerdiness, self-introspection, emotional outburst, attention to ideas, low-intense conflict, and being seemingly unaware of economic realities. This is reflected in the following dialogue from Bert and Benny's podcast:

Benny: Before my flu, I had incredible news. Our live podcast was sold out in [three main Swedish cities]. What brutes would we be if we could not add some additional dates?

Bert: We have new dates. We're putting our feet down. Check our homepage for tickets! You know what? There are two sorts of nerds here in the world: the good and the evil. The good ones are those who don't care about how the world perceives them.

Benny: Ha-ha-ha!!! But we need to return to the issue of my flu. You know, it was like the heart of darkness. My organs, my body, all feelings not necessary for survival, everything shut down. Except for my anger: Who did this to me? Who infected me?

Bert: You know who it was? You know, I got it too.

Benny: This flu was life changing! I will not live in Sweden next winter because of this. I'm sorry that you got that evil from me. But we're gonna hunt that guy down now, the one responsible.

[They make calls to several famous male friends and accuse them of infecting Benny with the flu at a high-end restaurant in central Stockholm. In the end, they conclude that a TV host [Patric] is the villain, but he does not answer their call].

Benny: The only thing you can think of when you are ill is "Who did this to me?" [Patric] cares about everything and he started it all! How many work hours and suffering has he caused Swedish work life? We're talking about thousands of people!

[Benny and Bert, podcast]

In contrast to the hectic life of Carla or the self-critical exposures of Anna and Asta, who seek ways to improve their lives toward perfection, Benny and Bert seem almost devoid of ambition and stress—except for occasional outbursts of hypochondria or childhood anxieties. Postfeminist tropes and hopes are found in this male context, where the two men go back and forth between taking the *soft man* position—treating women as equals and supporting empowerment of their female partners—and reinforcing patriarchal and aggressive masculinity by not shying away from making accusations, bursting out, and simultaneously claiming a victimized position (cf. Rumens, 2017).

The notion of worth in terms of social status, mobility, and entrepreneurialism is always present in our cases. All of the social media entrepreneurs studied exhibit quite lavish spending habits: it is obvious that they reside in exclusive neighborhoods, have

access to multiple homes, travel to exclusive vacation spots, buy expensive things, and so on and so forth. They rarely miss an opportunity to tell their followers about the famous people they are friends with and at what high-end venues they congregate. All of them, except for Carla, come from well-known families and depict themselves as yet another gifted generation rather than as ascending from nothing. There is an awareness of structural societal problems in all cases, but the solution is to take initiatives, launch new projects, and inspire others to do the same. The necessary attitude to life is to choose to remain positive and adaptive. Being critical is being negative, un-entrepreneurial, unattractive, unsellable, and a nobody. The follower, who nurtures a relation with his or her social media personae, can develop a relation with this life in proximity to oneself, lived out by consuming the attitudes and identity markers offered.

Conclusion

In this article we set out to develop the concept of the *projectified self* as a way toward future emancipatory project studies on how and why individuals in contemporary neoliberal societies identify with the ethos of projectification and the consequences thereof in their professional and private lives. The literatures on projectification go into some depth on the discursive resources individuals draw upon in pursuing project-based work (cf. Cicmil et al., 2016; Packendorff & Lindgren, 2014). However, there remains potential in exploring how power structures in society underpin the emergence of *projectified selves* (Kalf, 2017)—in other words, the construction of self and life in general as a project to achieve development and (re)affirmation of personal worth.

Through the conceptualization of the *projectified self* offered in this text and the empirically based example of social media entrepreneurs, we want to highlight possible new avenues for emancipatory project studies—both in terms of inquiring into traditional empirical settings in project research with new questions and studying new empirical settings (e.g., the social media entrepreneurs described earlier). Examples of possible empirical settings to study are entrepreneurs in general, the inhabitants of the gig economy, professionals in project-based industries, academics, public servants, new kinds of entrepreneurs aimed at social and environmental change, and other individuals who try to propel their careers through social media presence. The concept of the projectified self enables us not only to analyze how their identities are simultaneously produced, consumed, and also how their subject positions as emancipated human beings are constrained within an enterprise culture. The one not constantly involved in production and consumption of self and the one not constantly striving to become increasingly visible, available, relevant, and admired is without worth. Needless to say, the possibilities to gain and the risks to become bereft of such worth differ among individuals depending on other identity bases.

When pointing at possible new theoretical engagements available to project scholars when employing the notion of projectified selves, we thus suggest the study of markers used to further the projectified self, for example, gender, class, ethnicity, and

political orientations. Linking these to the theoretical discussions on enterprise selves and enterprise culture, we suggest they can be employed to analyze how the projectified self thrives in neoliberal society and theorize how it morphs to accommodate specific circumstances in different contexts. Without any ambition to be all encompassing, we have summarized three interrelated theoretical avenues, described as follows.

The first avenue relates to the consequences of project-based fragmentation of careers and lives—to what extent is the projectified self a fragmented self, and what does that mean for long-term achievements and well-being? As noted by Lindgren and Wåhlin (2001), some individuals tend to construct fragmented identities over time, compartmentalizing their selves and moving between identities depending on the situation. This is something that can be expected in a projectified setting with its various and varying demands from different markets and the need for the projectified self to stay relevant and worthy (Chiapello & Fairclough, 2002). Our perspective emphasizes the complexities and nuances of fragmentation—projectified selves are always conditioned to split themselves up in time and space in order to be prosument in new contexts and situations while also preserving some sort of coherent narrative of self. Moreover, it should also be of interest to revisit the notions of *greatness* and *worthiness* in Boltanski and Chiapello's (2005) work: What does it mean to be *great* or *small* in projectified milieus? What possibilities and problems are in store for those aspiring to achieve, prosper, and gain social status; in other words, never really attaining the phantasmic worth they so desperately seek? (cf. Jones & Spicer, 2005) What happens when projectified selves do not trust traditional notions of career, advancement, or downfall in organizations to offer the security, confidence, and predictability they once did?

The second avenue is the far-reaching responsibilization of individuals (Berglund, Lindgren et al., 2017) in neoliberal society in relation to the responsibilization going on in project-based settings (Hodgson, 2005; Kalf, 2017). Here, it is of interest to ask how such responsibilization is articulated, internalized, negotiated, and what the consequences are for the sense of individual risk and vulnerability (Cicmil et al., 2016). Projectified selves are both moral and moralizing selves, explicitly and/or implicitly producing ideologies and values, yet also subject to expectations to live according to these ideologies and values in order to gain and preserve personal worth.

Third, the projectified self is a highly gendered subject position (Berglund, Lindgren et al., 2017; Bröckling, 2005), implying that it is of interest to inquire about which femininities and masculinities are produced and reproduced in the process of prosumption in pursuit of worth. This particular kind of *doing gender* has been investigated in the feminist literature under the label of *postfeminism*. As noted by Ringrose (2007, p. 484), "...the postfeminist woman represents 'neoliberal dreams of winning and 'just doing it' against the odds'". She is a "can do," 'have it all' poster child for 'free market feminism' (McRobbie, 2004), celebrated as one who rises above her station in life to become not only a more productive and fulfilled worker, but also a better self" (Sullivan & Delaney, 2017, p. 839). A postfeminist perspective on projectified

selves thus allows us to analyze how emancipation in an enterprise culture is still gendered, in other words, that women have a much more conditioned space of action than men; that personal improvement thus may require not only action orientation and fearless entrepreneurialism but also adherence to *feminine issues* and explicit restraint and remorse. Future studies of how we can escape this postfeminist dilemma could be done by tracing practices on how we can be part of emancipatory action and changes in social structures.

Authors' note

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Thinly and Thickly Capitalized Projects: Theorizing the Role of the Finance Markets and Capital Supply in Project Management Studies

Alexander Styhre¹

Abstract

In the contemporary economy, finance industry interests and finance theory propositions increasingly determine investment behavior. Project management scholars access conceptual frameworks and methods that shed light on day-to-day project management practices, but such practices are themselves shaped by the supply and cost of finance capital. Consequently, project management scholarship would benefit from a closer look at finance industry practices to better understand how, for example, calculations and risk assessments matter for day-to-day project management practices. In order to theorize the project organization form, finance theory and its key concepts of risk and uncertainty need to be recognized and subject to scholarly inquiry. This article presents two cases of project work, wherein the former (life science ventures) is thinly capitalized on the basis of uncertainty in the development activities, whereas the latter case (housing production) is thickly capitalized, which indicates that subsidies, insurances, and exemptions increase investment appetite. In either case, economic and social welfare are not maximized, which calls for project management scholars to recognize the role of finance industry practices when allocating finance capital to various projects.

Keywords

project management, temporality, life science ventures, housing production, uncertainty

Introduction

The purpose of this article is to introduce theory and two accompanying empirical cases that contribute to the analysis of the project form as an essentially financial rather than a temporal organizational entity. This pursuit may be counterintuitive, given that temporality is widely assumed to be the elementary epistemological principle in mainstream project management theory. Nevertheless, the finance theory perspective contributes to project management scholarship, as it connects the ongoing discussion about the increasingly central role of the finance industry in the contemporary economy, and provides a novel perspective on the project form. In practical terms, this perspective includes a variety of practices and emerging relations, spanning project financing as diverse as the crowdfunding of small-scale artistic initiatives, such as indie video game development (e.g., José Planells, 2017), to the securitization of anticipated real estate tax revenues to finance urban regeneration projects (e.g., Pacewicz, 2013). Projects are thus premised on the agents' capacity to raise finance capital, and consequently need to be recognized in such terms in scholarly circles.

Over the last three decades, the project management literature has been established as a distinct scholarly subdiscipline within the management studies literature. Albeit being discretely defined as an enclosed, temporally defined organizational entity (Kreiner, 1995), deemed to be particularly suitable for complex assignments such as R&D and innovation work (Boland et al., 2007; Hobday, 2000), the project organization nevertheless remains connected to the regular line organization (Engwall, 2003). Through this combination of operative flexibility and managerial control, the project organization has been widely popular to use in a variety of settings. A considerable proportion of the project management literature consequently deals with issues pertaining to the development, use, sharing, and distribution of knowledge and expertise (Bresnen

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et al., 2004; Carrillo et al., 2004; Enberg et al., 2006). In theoretical terms, projects are defined on the basis of their *temporality*, that is, how they are confined in time, and with a defined starting and stipulated termination point (Lundin & Söderholm, 1995). However, the presence of a confined temporal structure of the project qua organization entity is not unique to the intraorganizational or cross-boundary project as, for example, freelance work or contract work (e.g., Bechky, 2006; Evans et al., 2004). Additionally, on the other end of the labor market status continuum, temporal work and “contingent employment” (Bergström & Storrie, 2003) are similarly defined on the basis of “temporal structuring” (Orlikowski & Yates, 2002). If the temporal structure of the project organization is an insufficient basis for discriminating between various classes of organizational activities (i.e., “projects”), the question of what a project is, in theoretical and practical terms, becomes a scholarly and practical issue (Söderlund, 2004; Whitley, 2006). The mainstream project literature, heavily indebted to the engineering sciences that first applied the project organization (in, e.g., civil engineering and R&D projects), tends to emphasize the rational instrumentalism of project management practice. In contrast, the management studies literature, more diverse in its methodological and epistemological perspectives, has advanced alternative views, which includes, not the least, a more critical view of the project organization and its historical roots and underlying assumptions (e.g., Hodgson, 2004; Hodgson & Cicmil, 2006). In this literature, the term *project* has also been appropriated as a more metaphorical term that denotes all activities that are temporarily confined (see, e.g., Brewis & Warren, 2001).

Following a call for novel theorizing in the domain of project management scholarship, this article underlines the connections between the project organization form and what Gilbert (2005) calls the time-money nexus, that is, how finance capital increasingly defines how certain projects are assessed and under what conditions they are treated as being worthy of investment, given projected revenues and rents. Swedberg (2017, 2012) proposes the term *theorizing* to denote the process wherein new theory is formulated. Similarly, Weick (1989; 1999a) introduces the term *theory construction* as being the work to formulate theoretical frameworks that are both *imaginative* inasmuch as they introduce new ideas, concepts, metaphors, and other heuristics, at the same time as they recognize the value of the empirical material. In Weick’s (1999b) view, theory construction should be “moving”; that is, it needs to cognitively and affectively engage the scholar and their audience. As Swedberg (2012, p. 2) remarks, “there exists many ways of theorizing,” including “induction, deduction, generalizing, model-building, using analogies, and so on.” Theorizing is part of the process to construct theoretical propositions that lend themselves to empirical testing. This article intends to introduce a series of concepts, references, and empirical observations to theorize the relationships between project management practice and scholarship and the finance industry, which provides the finance capital that propels a variety of projects. Expressed differently, the purpose of the article is

not to present a ready-made, off-the-shelf theory of financialized projects, but rather to invite project management scholars to further engage with the question of how contemporary projects, say, in infrastructure investment or urban regeneration projects, and financing are co-produced in intricate ways, oftentimes concealed or taken for granted to the uninformed social actor.

Several scholars have proposed the term *financialization* to denote a “key characteristic of the world economy of the last twenty-five years” (Milberg, 2008, p. 423), that is, the increased influence of finance theory in framing economic affairs, and the authority of the finance industry in influencing, shaping, and at times even dictating the rules of the transnational and national governance systems that structure economic production and transactions (Carruthers, 2015; Davis & Kim, 2015; Epstein, 2005). Tori and Onaran (2018, pp. 1394–1395) describe financialization as “[a] self-reinforcing socio-economic process, which manifests itself in the growing prominence of behaviours derived from the functioning of the financial sector.” It is important to notice that the deepening and broadening of financial services have generated many benefits, whereas the term is widely used to denote the negative consequences of an expanding finance industry. Hockett and Omarova (2016, pp. 1213–1214), for instance, describe financialization as “[a] dysfunctional mode of interaction between the financial system and the real [i.e., non-financial] economy, in which a disproportionate share of the flow of the monetized full faith and credit of the sovereign is continuously re-absorbed by the former rather than flowing to the latter.” However, other scholars, such as van der Zwan (2014, p. 101), are more agnostic regarding the effects of finance industry consolidation, and underline that that term “covers a host of empirical phenomena at different levels of analysis.” That is, rather than being some unified and close to hegemonic authority that looms over economic relations and transactions, van der Zwan (2014, p. 118) speaks about the need to examine what she refers to as “varieties of financialization”—the local applications and effects of a financial view of, for example, assets and resources. In this article, the term financialization is used in this more value-neutral meaning as an analytical model that describes empirical conditions being reported in both the news media and in scholarly work.

Needless to say, the mainstream project management literature has not been developed in isolation from finance industry interests and vocabularies. At the same time, a search in *Project Management Journal*® (*PMJ*) and the *International Journal of Project Management* (*IJPM*; search terms included “finance,” “financing,” or “financialization”) reveals that only two articles published in *PMJ* had the word “finance” in the title, and 13 articles published in *IJPM* had either the terms “finance” or “financing” in the title. Most of the articles addressed technical issues pertaining to the financing of various forms of projects in different regions of the world. More specifically, some of the articles that cited finance

theory publications addressed technical applications of finance industry methods (e.g., Huang, 2008; Hui et al., 2011), and devices in the project management setting (Le & Liu, 2014; Punwani, 1997). Such studies included studies of the use of finance theory models such as real-option pricing to make project-specific, cost-benefits calculations (Hawes & Duffey, 2008), or how to optimize project stakeholder's financial incentives in the construction industry (Rose & Manley, 2010). Repovž (1988) discusses what he refers to as "financial engineering" in project management, but offers no detailed accounts for how this is accomplished. In contrast, more recent work, such as Li et al.'s (2017) study on the use of structured finance devices such as credit default swap is explored in so-called public–private partnerships. Scarpellini et al. (2016) apply a finance theory framework to examine how "eco-innovation projects" are financed. This cursory overview indicated that the project management scholarship is cognizant of the influence of the finance industry but does not primarily apply finance theory when the project organization is defined or when idiosyncratic project forms are examined. Instead, the finance industry is treated as being exogenously given and constitutes the milieu wherein projects are developed, managed, and completed. This condition paves the way for novel ways to theorize the project form as what is constituted on the supply of capital, given various conditions and contingencies.

In order to substantiate the claim that projects are meaningful to define in terms of the finance capital investment they attract (i.e., their stipulated return on investment given a variety of conditions), two classes of projects qua investment objects will be examined. First, life science venture projects are examined as the exemplary case of a "thinly capitalized project." In this context, "venture" (defined shortly) and "project" (defined as a temporally defined organization, as stipulated in literature reviewed in the second paragraph) are not synonymous terms; but in a finance industry-led economy, the two terms tend to converge (albeit they do not conflate), as the financing of projects is increasingly dependent on finance industry practices. The term "thinly capitalized project" denotes the project wherein uncertainty cannot be reduced through a combination of subsidies, insurances, or exemptions, because it is epistemologically impossible (as in the case of new drug development), too costly, or politically unattractive. In such situations, specific projects are likely to access a lower stock of finance capital. The second case is real estate and housing projects, being the exemplary "thickly capitalized project," which denotes the project or venture wherein uncertainty (and preferably also some risk) can be reduced on a basis of subsidies, insurances, or exemptions, so that the finance capital investor can calculate a stipulated return. Such projects are comparably more likely to access a larger stock of finance capital. The two cases discussed may appear to be idiosyncratic cases whose interconnections and similarities are not easily detected, because industry specificities may obscure their embedding in finance industry practices. The primary roles of these two empirical cases are nonetheless to both

illustrate and substantiate how project-based activities are bound up with capital formation activities and capital supply decisions, even though the similarities of the cases are not examined in more detail in this article.

The Thinly Capitalized Project: Life Science Ventures

Economic Theory Propositions

Much of the scholarly literature emphasizes the entrepreneur as a key economic figure who upholds the dynamics of the capitalist mode of production. Baron (2008, p. 238) defines entrepreneurs as "individuals who recognize and exploit new business opportunities by founding new ventures." A venture, in turn, denotes "privately held entrepreneurial firms with significant external equity investment from professional investors" (Garg, 2013, p. 90). According to elementary economic theory, mature industries are cash-rich but offer by definition limited high-growth investment opportunities. In that situation, as some theorists prescribe, mature industries should return the residual cash to their shareholders (whereof roughly three-fourths are today institutional investors that hold stock and other financial assets in their portfolios). Shareholders (and finance capital owners more widely) are motivated by the opportunity to make a return on invested money, and consequently they are incentivized to reinvest their residual cash in high-growth potential industries, such as knowledge-intensive and innovation-oriented ventures and companies, say, in the life science, biotech, or digital media industries. However, as for example, fund managers are compensated on the basis of their ability to maximize the return to fund investors (given a stipulated level of risk). The investment in high-growth potential industries are predicated by the use of risk management models that discriminate and for large parts exclude investment objects that include nonparametric risk (i.e., uncertainty). "Investors, analysts, and finance professors can employ a number of comfortably familiar mathematical techniques to value economic ventures that are merely risky. But they have not yet figured out how to deal with uncertainty," Belinfanti and Stout (2018, p. 597) remark. Uncertainty denotes nonparametric risk that cannot be accommodated by risk management models and algorithms, and consequently, the assessment of uncertainty is a matter of professional judgment (i.e., noncalculative deliberation; Huang, 2018, p. 1824). As most development work includes degrees of uncertainty, and not the least in life science ventures that involve clinical trials (whose outcomes are complicated or even impossible to predict), much of the stock of high-growth potential companies are excluded from investment (i.e., they are rated noninvestable). Regardless of the supply of venture capital in an economy, and how much effort is invested in turning, for example, academic researchers into entrepreneurs, the supply of capital remains predicated on the capacity of investors to accommodate risks (Ellul, 2015; Millo & MacKenzie, 2009).

Life Science Ventures and the Venture Capital Supply

Life science ventures constitute a bona fide class of high-growth/high-risk ventures, which includes the deployment of advanced scientific and technological know-how to create new drugs, therapies, medical technologies, diagnostic tools, and so forth. Such innovations contribute to net social and economic welfare, as they enable new medical practices, prolong human lives, reduce suffering, or cut healthcare costs in various proportions. Furthermore, life science innovation is a politically prioritized domain, consistent with median voter interests, and generally represents a shared commitment across the political spectrum. Despite all these qualities and formal claims, in many cases, life science ventures remain thinly capitalized, and the failure rates of new life science ventures are considerable. Fleming (2015, p. 273) deplores the decline of venture capital investment in the life sciences, and shows that the finance capital invested in life science companies has recently “shrank as a percentage of total investments, from 35.7 percent to 19.9 percent.” What is particularly worrisome is that the share of the investment committed to “early-stage investments,” such as so-called preseed and seed money, have been subject to a “dramatic reduction from 62 percent to 45 percent,” Fleming (2015, p. 273) writes.

Only a very small proportion of all new firms created (of which life science ventures are only a subset) receive venture capital investment. In a sample that includes the 25-year period from 1981 to 2005, Puri and Zarutskie (2012, p. 2248) found that on average, 0.11% of all new firms (i.e., a one-in-thousand ratio) received venture capital investment. During the period of swift capital formation and finance market deregulation efforts, from 1996 to 2000, the ratio doubled to 0.22% (i.e., a two-in-thousand ratio), which is arguably still an insignificant proportion of new firms. Regarding economic performance, Kerr et al. (2014, p. 30) examine data from the Thompson Venture Economics database for the 1985 to 2009 period. The analysis reveals that the chance of return on investment in ventures is relatively small, as about 55% of the start-ups that received venture capital investment over this period were terminated at a loss (Kerr et al., 2014, p. 30). At the same time, 6% of the start-ups were capable of returning more than five times the original investment, and jointly accounted for circa 50% of the gross return generated over the period (Kerr et al., 2014, p. 30). Whether venture capital investors are successful in selecting the most promising firms from the pool of investment objects remains complicated to determine ex post and ex ante, but the high failure rate in the portfolio of selected companies indicates that the risk tolerance is quite substantial in the venture capital investor community.

Three-Fourths of the Venture Capital Stock Targets Existing Businesses

A more detailed analysis of the stock of capital that is defined as venture capital reveals that roughly three-fourths of the

funds represent buyout capital investments. Harris et al. (2014, p. 1852) demonstrate that the “asset class,” which includes buyout funds and venture capital funds, has persistently generated higher returns than “public markets” since 1984. Still, of the €70 million invested as venture capital, 74% of the finance capital was in buyouts, Deeg (2009, p. 568) reports. Furthermore, every single investment in buyout activities was relatively sizeable in comparison to the funds committed to, for example, life science ventures, with an average buyout investment in the range of €27 million (Deeg, 2009, p. 568). In other words, in Europe, roughly three-fourths of committed “venture capital” funds are channeled to finance buyout activities, arguably because existing corporations with a positive cash flow are less uncertain investments than new ventures. Buyout investment is not committed to the development of new business enterprises, innovations, and other contributions, but instead targets existing businesses to run them more effectively than the current owners or management team do. Harris et al. (2014, p. 1862) demonstrate that the average performance of buyout funds peaked in the mid-1990s, but remained relatively high in the early 2000s. More recently, the situation has changed, and the average venture capital fund has “underperformed public markets by about 5% over the life of the fund” (Harris et al., 2014, pp. 1880–1881). Such market data indicate that investments made in the 1980s and 1990s generated a generous supply of businesses that eventually justified buyout bids, and that buyout investors could harvest what previous generations of less risk-averse business owners and managers had developed over time. Under current conditions, such opportunities are more complicated to detect, and consequently buyout investments appear to be less lucrative.

Funding the Entrepreneurial Function and the Challenge of Uncertainty

Under all conditions, the research findings of, for example, Puri and Zarutskie (2012) indicate imbalances in the venture capital market, wherein the supply of finance capital is considerably lower than the demand (as suggested by, e.g., Fleming, 2015). This results in a situation in which ventures lead a hand-to-mouth existence, wherein venture capital infusions follow the capital-raising campaigns that take place whenever the venture is on the verge of bankruptcy. During such episodes, management may negotiate cuts in economic compensation or in work time with coworkers, which makes “venture work” comparably unattractive, despite being held in esteem by policy makers, academic scholars, and advisors (see, e.g., Aghion & Roulet, 2014). The finance market undercapitalization of new ventures results in a pool of new firms being primarily funded by small grants from the sovereign state and acting through its agencies, which include incubators, science parks, and university-based investment funds. All these are part of an economic policy supportive of innovation-led growth that ultimately builds a stock of what Slaughter and Leslie (2001, p. 154) refer to as “state-subsidized entrepreneurs.” In this situation, the responsibility

for financing new ventures befalls the sovereign state and the taxpayers.

Thickly Capitalized Projects: Real Estate and Housing Production

Elementary Economic Theory Propositions

In order to expand the capital base, the finance industry, which includes banks granted the license to issue credit by the authorities, demands capital that is issued by finance institutions being insured by the sovereign state. Such so-called *safe assets* are the foundation for capital-formation activities, whereupon private-backed credit can be issued on the basis of the stock of safe assets (Gorton, 2017; Gorton et al., 2012). Over time, Gorton et al. (2012) show, around one-third of all credit constitute safe assets (i.e., credit insured by the sovereign state). This means that around two-thirds of all credit is backed by private finance institutions, but this expansion of the capital base—beneficial for the overall efficiency of the economy and conducive to economic growth as an abundant supply of capital makes more ventures and entrepreneurial projects realizable—is nonetheless dependent on a predictable supply of safe assets.

To finance home purchases, the state relies on finance industry institutions or, as in the case of the United States, so-called government-sponsored enterprises (GSEs), to issue home mortgage loans. In the United States, the two GSEs, Fannie Mae and Freddie Mac, serve this role (Richardson et al., 2017), and to finance their mortgage finance activities, the two institutions have jointly issued approximately US\$5.3 trillion in mortgage-backed securities, collateralized mortgage obligations (CMOs), and corporate debt (Min, 2018, p. 912). Between the 1970s and the mid-1990s, GSE-backed securities “[m]ore than doubled their relative size,” Caverzasi et al. (2019, p. 1036) write. These liabilities are understood to “carry an implicit federal guarantee against losses” (Min, 2018, p. 901). Today, GSE-backed assets make up no less than one-quarter of the stock of U.S. safe assets, and one-tenth of the estimated global supply of safe assets (Min, 2018, p. 901).

Housing Supply as Political Objective and Capital-Formation Collateral

Weiss (1989, p. 253) argues that the real estate business “revolves around money,” and yet “surprisingly few” scholars engage in “tracing funds through the financial system.” Weiss (1989, p. 253) lists a number of areas of research demanding scholarly attention, which include “mortgage insurance, secondary mortgage markets, impacts of taxation policies, and public subsidies and programs.” As Min (2018, p. 900) notes, “[h]ousing finance naturally produces liabilities that function as money,” that is, housing production, which is the business of the construction industry, actively participates in the capital-formation process. Schwartz (2012, p. 38) says that mortgage debt, securitized or not, constitutes one of the largest, or the

largest asset in many OECD [Organization for Economic Co-operation and Development] countries (Schwartz, 2012, p. 37). In 2016, it was calculated that the global real estate assets represented 60% of all global assets, including “equities, bonds and gold” (Gupta, 2019, p. 1131).

The role of mortgage lending in capital formation is based on a variety of premises. First of all, housing is a “social necessity” (Min, 2018, p. 921); it is costly to develop and purchase, and has a very long depreciation period. Second, housing is part of the welfare state concerns, so policy making actively supports housing production (Schwartz, 2012). In most OECD countries, housing policy is a key component of the welfare state provision. In order to simultaneously implement a housing policy and support capital formation, legal reforms and a more liberal regulatory finance market control were deemed necessary. Such reforms, implemented in the late 1990s in the United States, widely expanded the possibilities for securitizing home mortgage loans (Caverzasi et al., 2019). This resulted in mortgage lending being more lucrative and increasing the supply of credit, but also in generating systemic risk that regulators were ultimately unable to monitor and keep in balance.

The Securitization of Home Mortgage Loans

Securitization provides several benefits for finance industry actors. First, securities markets are claimed to increase the liquidity in finance markets, because securitization is regarded as being more efficient than traditional financing, such as lending or issuing shares (Lipson, 2011, p. 1242). Gorton (2017) explains how illiquid assets are turned into liquid securities and are being traded in the market:

Securitization is the private production of safe debt. It takes bank loans as inputs and produces bonds (asset-backed securities) as outputs. Bank loans are mostly immobile; they cannot be traded or used for collateral. They sit on the banks’ balance sheets. But when used to produce ABS/MBS [asset-based securities/mortgage-based securities, i.e., derivative instruments with collateral], the resulting bonds, backed by these same loans, become mobile: That is, they can be traded, used as collateral, rehypothecated, and held to store value. (Gorton, 2017, p. 564)

Second, securitization gives originators access to the capital markets, which they would perhaps not otherwise have been able to access (Lipson, 2011, p. 1244). This second benefit is disputed not by design but by implication as, for instance, less prudent and poorly capitalized home mortgage lenders, targeting subprime borrowers, may access capital markets in which traders carry considerable information costs to identify low-quality collateral (an issue discussed shortly). The literature on predatory lending (e.g., Engel & McCoy, 2007) indicates that securitization-enabled assets backed by both high-quality and low-quality collateral were bundled in ways that increased information costs for finance traders, and thereby reduced the

market efficiency as systemic risk became prominent. Third, and perhaps most controversial, securitization enables certain accounting benefits that may result in reported financial fitness being somewhat misleading.

The Weakness of the Current Model: Opportunistic Behavior

Structural changes, legal reforms, and finance regulation developments have generated changes in capital-formation activities. Murdock (2012, p. 525) demonstrates that, prior to the year 2000, “real estate had been a relatively safe investment.” In the new regime of securities issuances and the repackaging of complex derivative instruments to produce high-risk and, by implication, illiquid financial assets, things have changed dramatically. For instance, in the period from 2003 to 2007, a relatively short period of five years, the number of subprime loans “jumped from 456,631 in 2000 to 2,284,420 in 2005” (Murdock, 2012, p. 525). As private-backed assets are subject to the same information sensitivity as any other assets traded on the market, the declining quality of the underlying collateral (i.e., the subprime home mortgage loan originated) generated considerable consequences once the U.S. home mortgage market expansion had reached its peak by 2007. Rajan et al. (2015, p. 238) argue that “[s]ecuritization changes the incentives of lenders, and hence their behavior.” As securities such as MBS can bundle both prime and subprime mortgage loans, it is possible to include less qualitative assets when a pool of mortgage loans is securitized. To determine the quality of a specific home mortgage loan (i.e., the quality of the collateral), the finance trader needs to access not only the “hard information,” which includes, for example, the borrower’s credit rating (estimated by a so-called FICO score; see, e.g., Karger, 2005, pp. 46–47; Rona-Tas & Hiss, 2010), but also the “soft information,” which includes, for example, the borrower’s future job prospects and capacity to repay the loan more widely. The soft information is costly to acquire and to process, and as the loan originator has few incentives to disclose such information within the securitization scheme, important information is never circulated (Rajan et al., 2015).

During a period of unprecedented credit expansion, the tail begins to wag the dog as the pool of prime mortgage borrowers runs dry, whereas loan origination still remains a *sine qua non* of the securities business: “As balance sheets expand, new borrowers must be found,” Shin (2009, p. 310) says. When the stock of prime mortgage borrowers declines (home mortgage lending is after all a local business, making the amount of prime borrowers limited in comparison to the possibilities of global finance market trade), banks must lower their lending standards in order to maintain their securities issuance activities. “In order to keep their pipelines going, integrated banks took on riskier mortgages and packaged them into bonds that turned out to be of lower and lower quality,” Goldstein and Fligstein (2017, pp. 505–506) summarize. When lending standards are compromised and other business objectives and concerns

overrule prudent lending principles, the “seeds of the subsequent downturn in the credit cycle are thus sown,” Shin (2009, p. 310) argues. “The securitization of mortgages made mortgage lending less dependent on local savings, but weakened the incentives of the mortgage originator to lend prudently,” Rona-Tas (2017, p. 54) writes. Empirical evidence substantiates such claims. For instance, Baumer et al. (2017, p. 588) report that nearly 25% of residential mortgage loans that originated between 2003 and 2005 in the United States “contained one or more indications of suspected fraud” (see also Fligstein & Roehrke, 2016).

The Wider Significance of Real Estate and Housing Production

Schwartz (2012, p. 47) argues that the postwar government reconstruction of housing finance markets has helped to “remove risk from the financial system.” This accomplishment demands some analysis. Gorton and Pennacchi (1990, p. 66, footnote 8) remarked three decades ago that one of the unintended consequences of government budget deficits and state debt is that they create a stock of safe assets whereupon private-backed money claims can be issued, thus multiplying the capital base in ways that supply capital to a variety of businesses (for a more recent analysis of the role of the U.S. budget deficits, see e.g., Ivanova, 2019). In this view, state debt and the “transactions system backed by money market instruments” (Gorton & Pennacchi, 1990, p. 66, footnote 8) jointly contribute to capital formation, vital for the functioning of late modern, financialized economies. “Large *sovereign* debt markets are effectively prerequisites to the emergence and sustenance of large *private* debt and equity markets,” Hockett and Omarova (2016, p. 1168) argue. Expressed differently, the sovereign state, operating based on democratic ideals, protects uninformed agents by insuring the deposits of the banking system (Gorton & Pennacchi, 1990, p. 51). In that situation, justified by stated political goals, “[t]he government’s role is to create a risk-free asset” (Gorton & Pennacchi, 1990, p. 51). The average citizen should not have to worry about their savings accounts as, for example, herd behavior that results in bank runs (Froot et al., 1992; Gorton, 2017) imposes excessive costs on the banking system being out of proportion to the parametric risk of bank default (Frieden, 2016). At the same time, as the historical record indicates, ex post resolution activities, such as bailouts benefit centrally located finance institutions, whereas the fringe, including individual households, is not prioritized (Pistor, 2013), for the most part being left to sort out their economic concerns on their own (see e.g., Andrews, 2009).

Taken together, construction industry projects, thoroughly grounded in dense institutional networks and anchored through various mechanisms (e.g., state-insured safe assets, the production of collateral, the securitization of illiquid assets), are thickly capitalized projects. In contrast to life science ventures, which are developed in the shadow of the uncertainty of a future that cannot be predicted by current risk management

models, construction industry projects benefit from the active involvement of the sovereign state that carries a considerable proportion of the risk as part of its home ownership policy.

Discussion

The essence of the project organization is its temporal constitution, which includes a stipulated beginning and a defined endpoint (e.g., Kreiner, 1995). In contrast, the two project-based cases examined above, the life science venture, and the real estate project, display several idiosyncrasies and contextual conditions, but they are unified in terms of their temporality. In the case of life science ventures, the project time is premised on the supply of finance capital—the funds being raised—and consequently, the calculated project time is a function of funds consumed per time unit (which can vary considerably as, e.g., clinical trials are comparably costly). In contrast, real estate and housing production is thickly financialized based on its central position in the politico-economic and financial system, and especially following legal reforms that enable the securitization of illiquid assets such as mortgage loans on an industrial scale. The two cases reveal dysfunctions or suboptimization in the finance-led economy. In the case of life science ventures, the shortage of private capital and/or an oversupply of entrepreneurs (which follows, e.g., “academic entrepreneurialism” promotion campaigns; see e.g., Colyvas & Powell, 2007) may result in tax money being committed to high-risk projects that private investors tend to regard as noninvestable (Gilson, 2003). Furthermore, such funds represent a transfer of tax money to closely held firms, which should be politically sensitive but is still justified by policy makers and based on a stated public interest in novel therapies and better and/or less costly healthcare. In the case of real estate and housing production, the oversupply of mortgage loans, derived from the lower cost of lending in the presence of thick securitization markets, have resulted in soaring housing prices, which undermines the political ambition to provide affordable housing. Eichengreen (2015, p. 89) reports that in the period from 1997 to 2006, housing prices rose 125% in the United States, 175% in Spain, and 260% in Ireland (all figures being significantly above the rise in the consumer price index). In many economies (e.g., China and Spain), the construction and mortgage lending industry has been the political system’s favorite sector to subsidize, with a considerable stock of real estate and housing currently not being used at all. Such empirical cases of how finance industry conditions affect project management practices justify a closer connection between the finance theory referenced in this article and mainstream project management theory. No project is an island (as Engwall, 2003, aptly puts it), inasmuch as the supply of finance capital determines the conditions under which projects are initiated, planned, and managed. That is, the “history and context” of the project should be recognized (Engwall, 2003), and this context inevitably includes relations among industry-level projects, the finance industry, and the sovereign state.

One implication for project management theory and project management studies is that projects need to be understood not only

in terms of their practical operations and day-to-day activities (which the mainstream project management literature has examined in detail), but also to consider the broader financial, regulatory, and political context wherein projects are developed, operate, and evolve. For instance, construction industry projects such as major real estate investments are inevitably related to and dependent on a variety of macroeconomic conditions and finance industry operations (Gupta, 2019; Huang, 2008; Hui et al., 2011; Le & Liu, 2014; Punwani, 1997), but these conditions are not of necessity recognized, or examined in detail in project management studies. Novel ways of financing urban renewal projects such as tax increment financing (TIF; Briffault, 2010; Weber, 2010) have been implemented; but the analysis of outcomes is largely to be found in the finance theory literature, the legal theory literature, or in urban studies or economic geography. Furthermore, a sizable amount of project management literature examines investment in infrastructure on either state or municipality levels and, in many cases, conducted based on a public–private partnership model (e.g., Li et al., 2017). Further research in project management scholarship could pay closer attention to, for example, the municipality bond market, being the foremost financing channel for infrastructure or housing projects (Cestau et al., 2019; Cornaggia et al., 2018; Schwert, 2017). In the United States alone, the municipality bond market grew from less than US\$1.4 trillion, in par value outstanding in 1996, to almost US\$4 trillion outstanding by 2017 in constant dollars (Cestau et al., 2019, p. 67). Despite the municipality bond market deepening, recent research reveals that current credit rating practices, which overstate default risks, cost U.S. taxpayers “an aggregate \$960 million annually in excess interest” in a conservative estimate (Cornaggia et al., 2018, p. 2076). That is, public financing of infrastructure projects is more costly, all things being equal, which has implications for project management practices “on the ground.” Project management scholars have a conceptual framework, a methodological toolbox, and adequate training and experience that enable them to examine how, for example, public–private partnership infrastructure projects unfold as they are initiated. Additionally, the financing of such projects could be included in the project management studies framework. Furthermore, in some jurisdictions, banks play a more central role in financing infrastructure and housing projects (for a host of publications addressing the role of banks, see e.g., Admati & Hellwig, 2013; Calomiris & Haber, 2014; Cetorelli & Gambera, 2001; Cingano et al., 2016; Levitin, 2016), and project management studies could examine the bank-lending channel to better understand new project management practices. For instance, Beswick and Penny (2018) call attention to what they refer to as the emergence of a “financialized municipal entrepreneurialism” in major cities such as London, wherein officers and functionaries assume the role of experts in raising finance capital and initiating urban regeneration projects. Such changes are of great interest to project management scholars, as key analytical concepts such as “uncertainty” and “risk,” shared by finance theory and project management theory, need to be operationalized on the basis of the idiosyncratic financing practices that take into account a variety of project-specific conditions, including the default risk of the borrower.

The benefit of project management scholarship is the widespread use of middle-range theory and the detailed empirical on-site studies that examine how project managers and project coworkers deal with day-to-day issues and concerns. This tradition of research provides excellent possibilities for contributing to the literature that examines the hands-on, down-to-earth implications of financialization. In addition, a more clearly stated concern regarding project management practices and their relationship to the expanding finance industry may generate novel insights that equally benefit project management practice and scholarship. Not the least, the key terms of risk and uncertainty—used in risk management practices in both the finance industry and in project management practices—should be subject to increased scholarly studies in empirical settings, especially in calculative practices in the finance industry. Finance theory and its relation to national and transnational regulation is an abstract and convoluted affair, but its implications inevitably shape the day-to-day work of project managers, coworkers, and their clients and beneficiaries.

Conclusion

This article has examined the project organization as a discrete activity and/or entity that nonetheless is closely bound up with the financialized economy inasmuch as questions pertaining to finance capital investment, such as risk calculation and uncertainty assessment, affect the supply of finance capital to specific industries and their various projects. One of the implications is that project management is a professional domain of expertise, wherein the capacity of the underlying venture or business activity to attract finance capital investment determines the nature of which projects are deemed realizable and eventually materialize. Finance capital is separated into various classes of tolerable risk exposure (as indicated by terms such “safe asset” and “venture capital”), and different industries and projects are more or less qualified for these forms of finance capital investment. Based on these propositions, project management scholars should preferably pay closer attention to how the various models, tools, and devices used in day-to-day project activities recognize and apprehend a finance industry logic. In an analogy, Yakura (2002, pp. 968–969) examined how time is managed by using “timeline” tools, such as Gantt charts, so that the inherently abstract and fluid perception of time “[g]ives participants an illusion of ‘management’ or ‘control’ of a project”; project management scholars are invited to demonstrate how project management models, tools, and devices accommodate and, if possible, neutralize risk and uncertainty in day-to-day practices. Much finance capital investment is made in the face of risk and uncertainty, and project management models serve the role as a managerial device that reduces perceived risk to tolerable levels. Such studies would contribute greatly to what has been referred to as the social study of finance (Beunza et al., 2006; MacKenzie, 2009, Vollmer et al., 2009). In the broader light of the financialization discourse, project management studies would be able to substantiate formal propositions and call attention to the various unintended consequences of

purposeful action that commonly surface in institutional change processes.

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The Management of Values in Project Business: Adjusting Beliefs to Transform Project Practices and Outcomes

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Abstract

Project value is an important topic of debate in project studies, and previous research has identified challenges in value management. This article reveals the challenges of subjectivity, dynamics, and tensions stemming from multistakeholder involvement and competing values over the project life cycle. This research seeks solutions to the management of values by exploring values as beliefs to supplement their treatment as worth. Management of values is portrayed as an exercise in sensemaking, negotiation, and co-creation when adjusting beliefs to transform project practices and outcomes. A research agenda is proposed to cover the social and behavioral aspects of values in project studies.

Keywords

project value, values, worth, belief, value management

Introduction

Interest is growing in projects as mechanisms of value creation for organizations and project networks (Artto et al., 2016; Winter & Szczepanek, 2008), which is also reflected in a topical special issue in the *International Journal of Project Management* on delivering value in projects and project business (Martinsuo et al., 2017; Martinsuo, Klakegg, van Marrewijk et al., 2019). Projects are relevant not only because of their temporary problem-solving nature, but also because of their potential for delivering strategic life cycle value (Martinsuo et al., 2012) and creating the necessary preconditions for continuous operations in organizations (Smyth, 2018). The dominant perspective regards value as the *worth* of the project or its outputs and outcomes, including the benefits and sacrifices from the project to relevant stakeholders over the project life cycle (Ahola et al., 2008; Zwikaal & Smyrk, 2012). From this viewpoint, value is considered from multiple dimensions (Ahola et al., 2008; Eskerod & Ang, 2017; Kivilä et al., 2017) and as something that can be planned, assessed, and managed. However, the management of values has been perceived as challenging, for example, due to the multiple stakeholders' different perceptions of what is of value to them in specific circumstances (Laursen & Svejvig, 2016).

Projects involve multiple different stakeholders (where a stakeholder is “an individual, group, or organization who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project”) (Project Management Institute (PMI), 2013), internal and external, each of whom

may have specific ideas of what constitutes value (Eskerod & Ang, 2017). Value management in project business deals with the means to identify stakeholders' explicit expectations about what is *of worth/worthy* and convert these expectations into plans and measurable benefits (through project activities). In contrast to the traditional product- and output-centric idea of project success, adopting the value creation perspective draws attention to the broader project life cycle, including the customers' customers and their anticipation of implemented outcomes (Winter & Szczepanek, 2008). Value management, in this vein, implies not only planning and creating value throughout the project, but also delivering and capturing it long after the project is complete.

In reality, however, it is very difficult or even impossible to estimate and quantify project value in absolute terms and thereby control or capture it. In fact, there is ample criticism of the hard approach to value management when it is essential to discover a shared understanding among individuals about what value is and how values are prioritized (Green & Sergeeva, 2019). How can you manage value if its nature is not fully known or shared by stakeholders? Which

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dimensions of value are relevant to a specific project? Which stakeholder's perception of value is the right one, and how are multiple stakeholders' viewpoints on value aggregated? How can management really promote value (instead of destroying it) if they do not know exactly which value they are managing? Despite a variety of available techniques and methods for managing value and benefits, previous studies indicate that the character of value is situation specific, subjective, and even negotiated (Eskerod & Ang, 2017; Laursen & Svejvig, 2016), thereby challenging idealistic assumptions about its manageability.

The rationale for this article deals with the fluidity and ambiguity of the concept of project value and, at the same time, its tempting character that attracts the attention of both practitioners and researchers, linking the temporary project with the owner's continuous operations, and potentially enabling versatile approaches to assessing project success. The article will challenge the current fixation on value as *worth* that can be measured and managed. It brings in the social and behavioral views on values as an individual's abstract beliefs about ideal modes of conduct and ideal terminal goals—in other words, as end-states that are or are not worth attaining (Rokeach, 1973). From this perspective, values-in-use influence the selection of alternative means, ends, and actions (Hofstede, 1980).

When viewing values as beliefs, there is a need to distinguish among espoused values (those that are defined and communicated explicitly), values-in-use (those that are really adopted and reflected in behaviors and artifacts), and enacted values (espoused values that are implemented in practice; Schein & Schein, 2017). The management of values implies an attempt to change the values-in-use. People adopt values through socialization (van Maanen, 1976), and changes of values at the organizational level may be extremely challenging transformations calling for strong leadership (Schein, 1985). Therefore, the management of values occurs *in and through the minds of people*, which offers a novel perspective on value management in projects and questions the current paradigm of value management as *organization-level processes of creation, delivery, and capture*. Such a moral and social perspective on values has been acknowledged in the context of projects (Aliakbarlou et al., 2016), and also as a means to frame or justify stakeholders' priorities during project preparation (Martinsuo, Vuorinen et al., 2019), but it has not been analyzed thoroughly.

This article theorizes the management of values in project business in terms of *adjusting beliefs to transform project practices and outcomes*. The goal is to propose a novel research agenda for the study of project value from the perspectives of stakeholders' beliefs and to complement the dominant view of value as worth. The focus is on two questions: (1) What are the main challenges caused by viewing value as worth? And (2) How can project management research benefit from viewing values as beliefs? Since the article is conceptual, no new empirical data are reported, and projects are treated generally, with no particular attention being paid to specific project types. However, for the sake of simplicity, both the perspectives of

investment and delivery are included, and projects of varying sizes are acknowledged where needed.

With this focus, the article deviates from the positivistic research philosophy wherein the nature of reality is considered objective; knowledge is measurable and follows natural laws; and knowledge about truth is available through sensory experiences, reason, and logic. Rather than move completely to the interpretivism end of the research philosophy spectrum, which would build strongly on individuals' subjectivity, the orientation of this article is realism instead (Saunders et al., 2009). In this article, reality exists independently of our thoughts and can be observed in the behaviors, artifacts, and outcomes that organizations exhibit and produce. These observations may include inaccuracies due to a lack of data and possibly also due to researchers' worldviews. In realism, researchers can build knowledge about values as beliefs by both asking individuals and observing the manifestation of the values in practice, while acknowledging the inaccuracies of human perception (Saunders et al., 2009).

The article will next introduce the current understanding of *value as worth*, characterize its current understanding over the project life cycle, and identify three dominant challenges. Then, the alternative perspective of *values as beliefs* is introduced and used as a way to explain the identified challenges. Finally, an agenda for future research is suggested to enable further inquiry into the management of values in project business. Since values are relevant not only in single projects, but also on multiple organizational levels including portfolios and programs (Martinsuo, 2019; Martinsuo & Killen, 2014; Thiry, 2002), the article will take these multiple levels of analysis into account.

Value as Worth in Project Business

Often, when researchers characterize the projects included in their studies they explicate the budget, duration, possibly also the partners involved, and/or the resource requirements for the project. Similarly, when the media communicates about forthcoming, ongoing, or completed projects, they may easily express the worth of the project in terms of the financial investment required for planning and implementing the project. Such numbers may differentiate among ordinary, small, large, major, and megaprojects and delimit attention to the project implementation phase.

This idea of financial investment, however, is a poor way of characterizing the true value of the project because it does not include any indication of future income that will be achieved through the use of the project outcome or the other benefits and costs related to it. Therefore, the current understanding about project value considers value in relative terms, as the quotient of benefits and costs (Laursen & Svejvig, 2016), and often also acknowledges the accrual of those benefits and costs over the life cycle of the project (Ahola et al., 2008; Laursen & Svejvig, 2016), not just during project implementation. Also, current understanding is that value needs to be considered both in the short and long term (Ahola et al., 2008) and extends beyond

simply financial value. Value covers various dimensions or components, such as economic, environmental, social, technological, political, symbolic, or aesthetic (Eskerod & Ang, 2017; Flyvbjerg, 2017; Kivilä et al., 2017; Martinsuo & Killen, 2014), and commercial, intellectual, and collaborative (Liu et al., 2019). Flyvbjerg (2017) refers to some of these as the “sub-limes” that drive megaproject development.

The dimensionality concerning project value is already apparent in taking novel approaches to defining and assessing project success. It is not sufficient to assess a project’s success merely in terms of reaching the project’s goals of scope, budget, and schedule (Atkinson, 1999); instead, the life cycle–oriented benefits of impacts on customers, impacts on business, and preparing for the future need to be covered as well (Shenhar, Dvir, Levy et al., 2001). Any of the value dimensions could be considered in assessing project success, depending on the project’s expected value. For example, the aesthetic or symbolic values may be particularly relevant to large, enduring infrastructures with societal significance (e.g., Eskerod & Ang, 2017; Flyvbjerg, 2017), whereas knowledge development and learning might be more central to technology development projects (Martinsuo & Killen, 2014). Measures of project value cannot necessarily be considered at the time of project completion, but their achievement may imply months, years, or even decades of follow-up (Artto et al., 2016; Eskerod & Ang, 2017).

The management of values as worth deals with the question of how managers, project personnel, and other stakeholders can guarantee that the expected values will be achieved. As such, it is closely linked with project control (Kivilä et al., 2017), risk and uncertainty management (Laine et al., 2016; Olsson, 2007; Willumsen et al., 2019), and stakeholder influence (Vuorinen & Martinsuo, 2019), and it requires anticipation of the operations

phase already during project implementation (Artto et al., 2016; Laursen, 2018; Smyth, 2018). One stream of research has explored value engineering and value management over the project life cycle, in and across its different phases (e.g., Artto et al., 2016). Figure 1 illustrates key activities and decisions (or achievements) across the project life cycle, as discussed in previous research. Typically, a distinction is made between pre-project phases (ideation and planning, i.e., the front end), project implementation (and closure), and post-project phases (operations, i.e., the back end), but the research only focuses on a specific phase. The life cycle view assumes that expectations of project value are converted into plans that are used as guidelines for implementation and delivery and eventually transformed into value that is captured for the owner of the project outcome. Figure 1 highlights that in the pre-project phases, the stakeholders’ *ideas and expectations of life cycle value* guide the project work (arrows toward the life cycle), whereas in later phases, the *achieved value accumulates* to the life cycle value (arrows starting from the life cycle).

During the pre-project phases of idea generation, sales, and planning, the task is to identify what kind of value is expected from the project and negotiate among the stakeholders involved how this value will be created and delivered (e.g., Edkins et al., 2013; Martinsuo, 2019; Matinheikki et al., 2016; Williams & Samset, 2010). Research has identified the diverse expectations of stakeholders (Matinheikki et al., 2016) as well as the co-creation and negotiation required (Liu et al., 2019) to achieve a common understanding about the project goals and value to be delivered through the project. This common understanding appears to be quite important to the success of the project.

In the implementation and possible commissioning of projects, the aim is to optimize and maximize the value created and

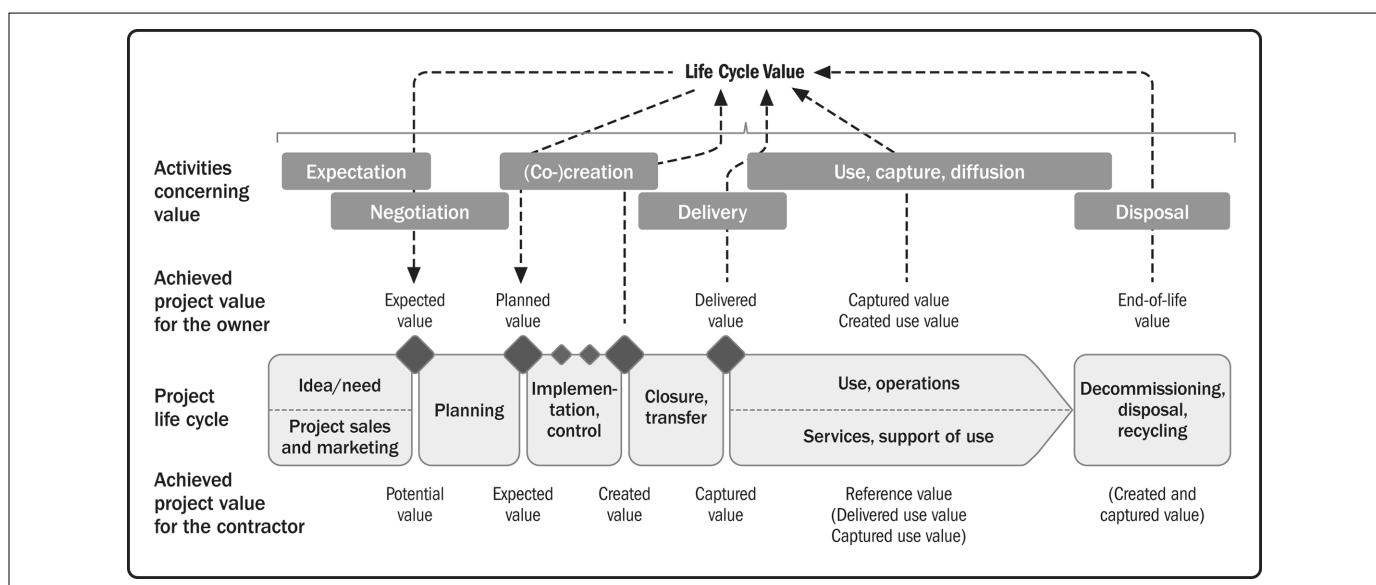


Figure 1. Overview of the current understanding of how project value (as worth) emerges as part of the project life cycle (author’s interpretations, building on the project life cycle phases as covered in Artto et al., 2011).

delivered in the project. Stakeholders influence the delivery of value through their own priorities and involvement (Vuorinen & Martinsuo, 2019). Project implementation is often seen as a phase where value is jointly co-created by the partners involved in the project delivery (Fuentes et al., 2019; Laursen, 2018; Lehtinen et al., 2019), the project is linked through appropriate mechanisms to the parent organization (Riis et al., 2019), and the responsibility for the project outcome is transferred to the customer. During project implementation, however, the created value is primarily visible to the contractor because the deliverable has not yet been transferred to the owner.

Recent research has been increasingly active regarding post-project phases, where the owner of the project deliverable and possible stakeholders expect to create use value and capture the value promoted by the project in the post-project operations (Arto et al., 2016; Laursen, 2018; Smyth, 2018). Typically, stakeholders do not see the full value of the project until long after its completion (Eskerod & Ang, 2017). Particularly in connection with delivery projects, the project contractor may need to involve the users during the project's implementation and offer post-project services in order for the owner to realize the project's full value (Arto et al., 2016; Kujala et al., 2013). Furthermore, some studies question whether or not there is value in the end-of-life of infrastructures, drawing attention to how large infrastructures are withdrawn from use and dismantled safely (Invernizzi et al., 2019).

Figure 1 illustrates that value appears in different forms for the owner and the contractor over the project life cycle. The

owner experiences the full life cycle of the project and the delivered solution, and the owner's dominant interest is in the captured value and created use value *after* the project. The contractor, in turn, requires value creation and capture already *during and at the end of the project*, and the contractor may experience only a part of the project's life cycle, if it is not involved in planning and delivering the post-project services to maintain, upgrade, or dispose of the solution delivered in the project. The owner's and contractor's different perceptions and specific timing in the expected, created, and captured value lead to some challenges in the overall idea of project value, which will be discussed next.

Challenges in Relation to Value as Worth

There are three issues in the project life cycle setting that challenge the theoretical considerations concerning viewing value merely as worth, and these are summarized in Figure 2.

Firstly, the existing literature repeatedly expresses that multiple stakeholders each have their own perceptions of value and that this subjectivity is reflected in stakeholders' attitudes, decisions, and behaviors (Ahola et al., 2008; Eskerod & Ang, 2017; Martinsuo & Killen, 2014; Martinsuo & Killen, 2014; Vuorinen & Martinsuo, 2019). When value is understood as *subjective* (instead of objective and measurable), needs emerge for negotiation, cooperation, co-creation, and problem solving over the project life cycle to resolve issues caused by the stakeholders' different needs (Lehtinen et al., 2019; Matinheikki et al., 2016).

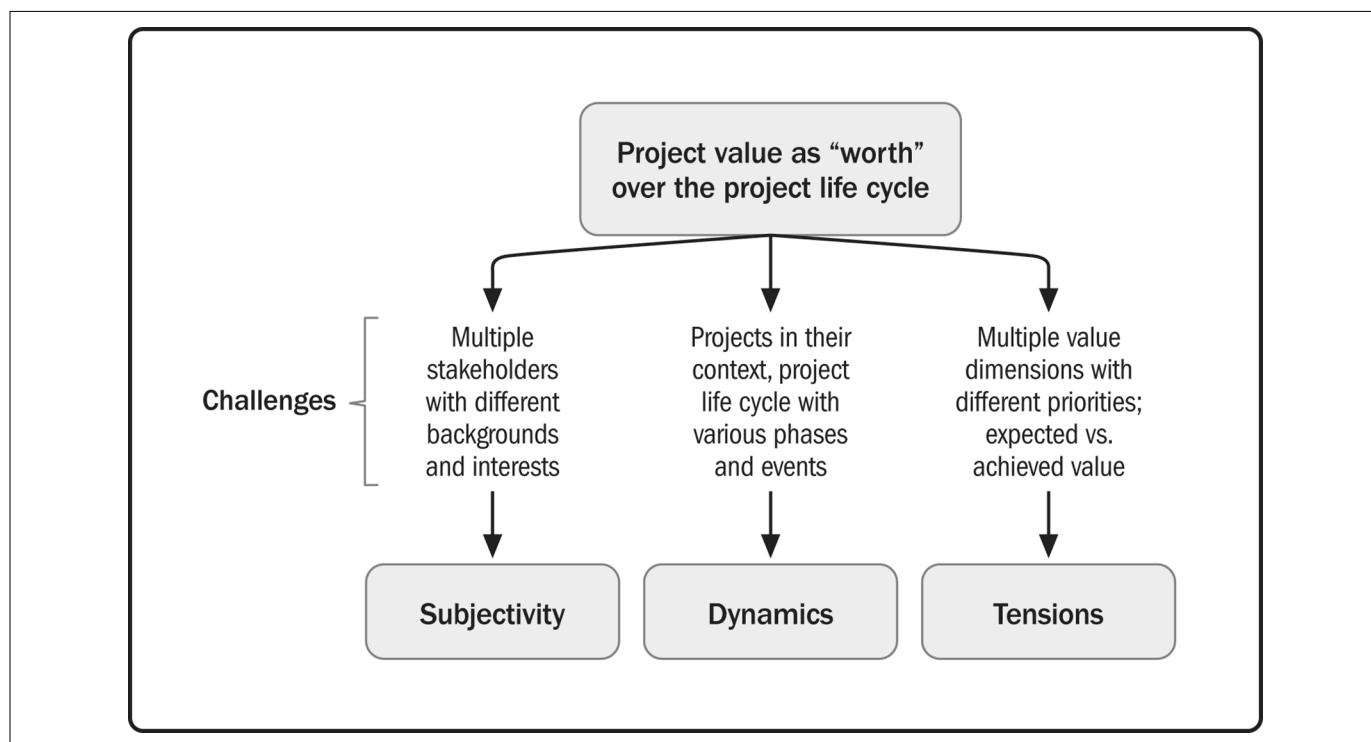


Figure 2. Overview of challenges in relation to viewing value as worth over the project life cycle.

What guides an individual's expectations and assessments of value? Is the project's original concept of planned value coherent or unanimous across individuals (when eventually explicated)? How will the individuals' expectations and assessments be aggregated and/or prioritized? What happens to the expected value if it is not covered in the project? Current research does not consider what guides individuals' value assessments, how they are aggregated to formulate expected project value, and what happens to such expectations when they are not fulfilled in the given project.

Secondly, previous research typically settles on cross-sectional assessments of value, either at a given moment during project delivery, generally concerning the project as a whole (Kivilä et al., 2017; Vuorinen & Martinsuo, 2019), or after the project is completed (Eskerod & Ang, 2017). However, the project and its context evolve all the time through the events that take place in the environment, the actions of the stakeholders, and the actions taken within the project by the project personnel (Martinsuo, 2013; Veeneman, Dicke et al., 2009). Therefore, we should acknowledge that project value is *dynamic* and evolves over time. It is likely that the perceptions of value may vary over time as well, because changes take place in the project and its environment, the project stakeholder composition may vary over time, and individuals' value priorities may change because of life circumstances and experiences both within and outside the specific project. Indeed, how does value evolve over time, and how are changes in value perception reflected in behavior?

Thirdly, achieving the value anticipated in the expected value is neither easy nor straightforward—in fact, it can be demanding and problematic. We argue that the idea of project value remains incomplete and under tension throughout the life cycle of the project, and this *tension* requires constant adjustments from the people involved in the project. Tensions deal with the interplay among different value dimensions (economic, social, ecological, technical, symbolic, and so forth) and the necessary compromises or prioritization that take place among them, as well as the gap between expected and achieved value. Research that draws attention to value slippage (Bos-de Vos et al., 2019), conflicts (Lehtinen et al., 2019), and project failures show tensions in project teams' and leaders' considerations that create a need for compromises and decisions. These tensions carry the possibility of both enabling and jeopardizing value creation and capture. Furthermore, a source of tension may relate to the difficulty of assessing project success in projects where the project need is not agreed upon or where the goals are not met, but benefits are accumulating over time in a positive manner. For example, the frequently used example of the Sydney Opera House (Shenhar & Dvir, 2007) and the recent study on the Astoria Bridge (Eskerod & Ang, 2017) suggest that the idea of value is incomplete at the time of project completion and that full project value is less than perfectly understood during the project. What is project value, then, if the value dimensions conflict with each other and the idea of worth remains incomplete?

There is a need to understand more deeply the subjectivity, dynamics, and tensions concerning project value. Therefore, explanation is sought from a supplementary perspective on what value is.

Values as Beliefs in Project Business

In social and behavioral research, value is considered in plural: values are individuals' abstract, deeply held beliefs about ideal modes of conduct and ideal terminal goals—in other words, end-states that either are or are not worth attaining (Rokeach, 1973). Individuals learn their values during childhood through their upbringing and schooling and may continue to learn and adopt new values later in life as well. However, values are often considered highly stable—it is difficult to unlearn the values adopted in childhood. Research on organizations—organizational culture in particular—claims that organizations have values, adopted as a means to survive in their business environments, and these values are reflected in the behaviors and artifacts in the organization (Schein, 1985). However, organizations do not necessarily represent an integrated, homogeneous entity in their values and culture, and they may have intraorganizational differentiation and even fragmentation that is reflected in multiple different subcultures (Martin, 1992).

Schein and Schein (2017, p. 4) emphasize that espoused values are “articulated and publicly announced principles and values that the group claims to be trying to achieve,” and they distinguish the promotion of certain espoused values in an organization from the individual values-in-use (that are reflected directly in behaviors). While organizational values may be difficult to change, they do evolve over time as the organization resolves issues pertaining to its survival and success in the environment (Hatch, 1993). The dynamics dealing with the interplay of values, artifacts, assumptions, and symbols in Hatch's (1993) cultural dynamics model actually convey the idea of cultures as dynamic entities.

This viewpoint on values offers a novel angle from which to consider project value and, potentially, to theorize and explain some of the abovementioned issues dealing with its subjectivity, dynamics, and tensions. During the project front end, individuals may (or may not) espouse their values as their expectations of project value (Martinsuo, 2019; Martinsuo, Vuorinen et al., 2019). Values-in-use emerge from the deeply held beliefs and assumptions of individuals, and they guide individuals' behavior during the project. In a social context, neither the espoused values nor the values-in-use operate in isolation but within the context of other individuals' values. The enactment of values means that although an organization or individual espouses certain values, the enacted values are socially constructed through the processes of sensemaking, negotiation, and co-creation, and each dimension of value may evolve differently in these processes of sensemaking (Veeneman, Dicke et al., 2009). These processes take place at any level—within a group, in an organization, and in an inter-organizational network—among stakeholders (Martinsuo,

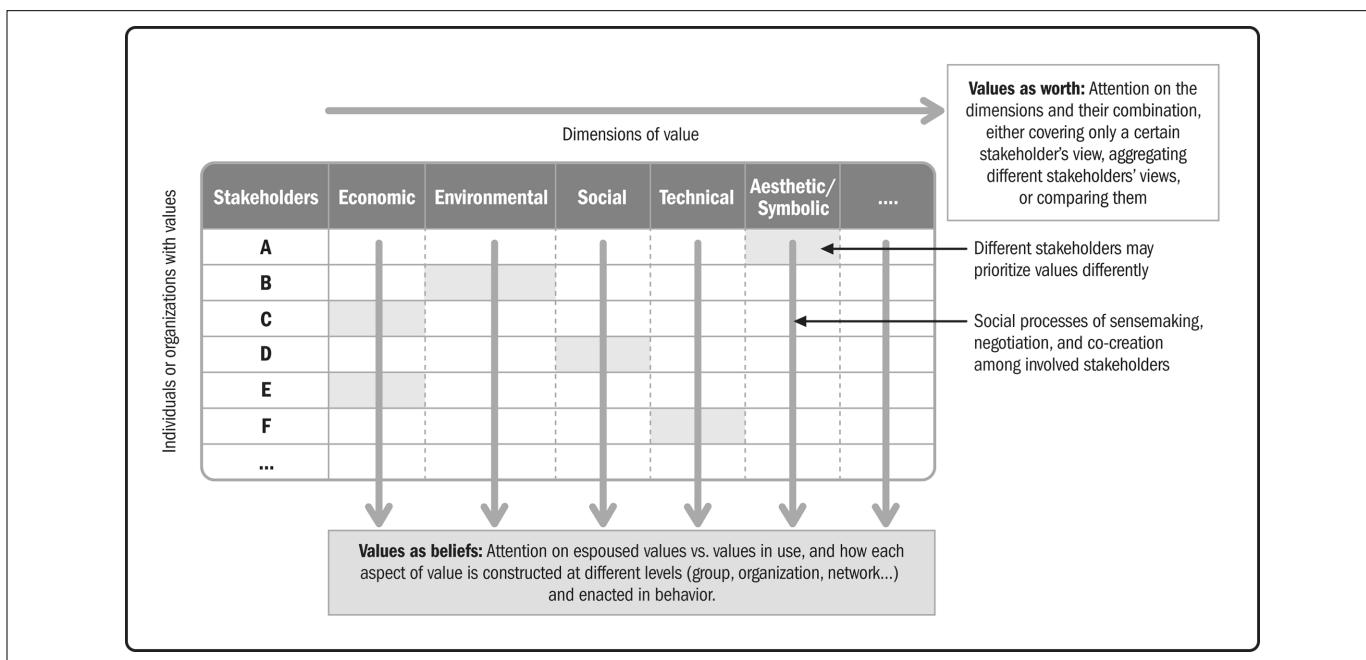


Figure 3. Differences between value as worth and values as beliefs (author's illustration, including value dimensions from Eskerod & Ang, 2017; Flyvbjerg, 2017; Kivilä et al., 2017).

2019). Figure 3 illustrates the differences between value as worth and values as beliefs in project business.

The social and behavioral aspects of value explain why value cannot be considered in a merely additive sense, meaning that the total project worth is not simply the sum of all value components. The main question is: How do the multiple stakeholders in a project construct and continuously re-construct their joint idea of value over the life cycle of a project? A project's expected and planned value could well be considered as aggregated espoused values that may (or may not) guide the involved stakeholders' values-in-use. Yet, the delivered and captured value of the project may be a result of some other stakeholders' values-in-use, depending on their position and tasks in the project. Each of the stakeholders contributes a specific cultural context and values—not just of the organization, but also of the industry and society—because of the deeply rooted character of human values. Furthermore, this deeply rooted, contextual character of human values can explain the conflicts and problems experienced throughout the project life cycle. Following, each of the abovementioned challenges from this perspective of values is considered.

Viewing cultural values as beliefs offers a foundation for why and how the *subjectivity in value judgments* plays out *between the stakeholders*. Project stakeholders bring their particular values with them to all the possible sensemaking and negotiation events taking place in the project. Therefore, the idea of project value is not just one among several identifiable and constant values, but it is an assemblage of the values of all the stakeholders involved at any given moment. Subjective biases and non-rational decision making are understood

particularly at the front end of projects (Williams & Samset, 2010) and in the multistakeholder tradeoffs concerning value (Bos-de Vos et al., 2016); they also need to be understood even more broadly throughout the project life cycle, as some stakeholders may only become active in the later stages. Each stakeholder might purposely engage in value-oriented influence in any phase of the project (Vuorinen & Martinsuo, 2019), and the specific types of value may differ at the different levels of the organization or administrative system (van Gestel et al., 2008; Veeneman, van de Velde et al., 2006). Additionally, stakeholders may use specific framing tactics to promote specific values and thereby drive their own interests in the project (Martinsuo, Vuorinen et al., 2019). Subjectivity, as a whole, implies a diversity of values across stakeholders and the requirements for sensemaking, sharing, negotiation, and co-creation based on the stakeholders' unique values. This subjectivity is currently covered in a very static sense in the existing research.

Through subjectivity, the *dynamic and evolving nature of values* also becomes very understandable *over the life cycle of the project*, as the involved stakeholders face different events that may test and either endanger or enable the project's survival and success. When the stakeholders interact during the project, their values become objects of negotiation in different events. The decisions made concerning value range from the critical issues of project selection and resource allocation to the very small, day-to-day issues regarding problem solving and managing any of the project's details. All these decision-making events are points of influence for the stakeholders, and the priorities and consequent stakeholder influence may vary from one project phase to another

(e.g., Laursen, 2018; van Gestel et al., 2008; Veeneman, van de Velde et al., 2006). Eskerod and Larsen (2018) propose the *shadow of the context* concept, in other words, the need to acknowledge stakeholders' perceptions of the relevant past, present, and future in project decision making in order to develop a richer and more holistic picture of the stakeholders' needs. Events in the surrounding environment may also activate sensemaking in various ways. While some studies already take event-based or process-based approaches to exploring project value (Fuentes et al., 2019; Matinheikki et al., 2016; Vuorinen & Martinsuo, 2019), they do not fully exploit the possibilities of changes in values over time and the drivers of these changes.

The beliefs perspective enables viewing the *tensions and incompleteness* of values in two ways. Firstly, when values are understood as beliefs, it allows us to accept that *values are competing with each other*—they are not equally strong or desirable, but they are prioritized differently by different stakeholders for project decision making in all decisions, and these priorities may change over time as new stakeholders become involved in the project. While research on organizational culture acknowledges competing values (Cameron & Quinn, 2011), for project business this aspect is covered only marginally (Hannevik et al., 2014; van Gestel et al., 2008; Veeneman et al., 2006, 2009; Wiewiora et al., 2013) and with an emphasis on ways of working instead of desired end-states, opening up further possibilities for research.

Secondly, this perspective also accepts the imperfections of values at a given moment and encourages moving toward a constant *comparison between espoused and enacted values* to guide

further behaviors. What is desired is that the enacted values increasingly match with the espoused values as the project progresses, and if slippages, conflicts, and problems occur, they are resolved to ensure better value alignment. As the study of Bos-de Vos et al. (2019) shows, stakeholders can mitigate the value slippages through different strategies.

Figure 4 illustrates in a simplified manner how project stakeholders' different values appear, meet, and are shared, negotiated, and co-created over the life cycle of the project. The figure shows the evolving involvement of stakeholders in sensemaking, sharing, negotiating, and co-creation processes and thereby their dynamic contributions to how expected value transforms into planned, created, delivered, and captured value. Figure 4 also shows that industry values and norms (and, more broadly, those of society) may influence the value-related processes within projects.

Discussion and Research Agenda

When value is perceived as worth—an objective and measurable issue external to individuals—it is assumed to be manageable and even engineered (i.e., planned, designed, implemented, and controlled) as a part of project management. Thus far, however, project management frameworks have maintained their efforts to manage costs and benefits separately (e.g., APM, 2012; Project Management Institute (PMI), 2013) instead of value as a whole. This article has pointed out three major challenges—subjectivity, dynamics, and tensions—as issues emerging from the externalized treatment of value. Therefore, additional attention should be

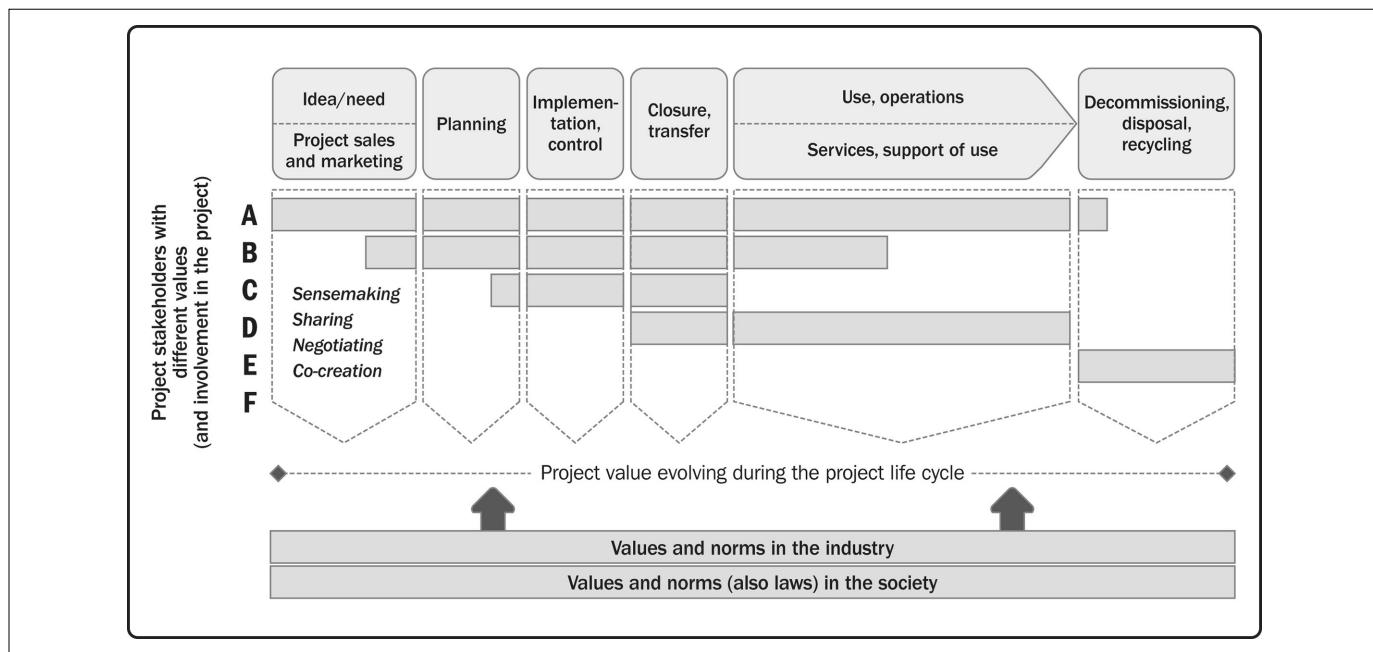


Figure 4. Joining and aggregation of stakeholders' values as beliefs over the project life cycle (author's illustration building on the project life cycle phases as covered in Artto, Martinsuo et al., 2011).

paid to values as beliefs that guide the behaviors of individuals and groups (acknowledged partly in the International Project Management Association [IPMA], 2006, p. 120). Previous research has already indicated that values are beliefs that require and result in sensemaking and negotiation in the social context (e.g., Thiry, 2002), framing issues in light of stakeholders' subjective interests (Martinsuo, Vuorinen et al., 2019) and social construction and sharing through the communication of individuals (Green & Sergeeva, 2019). When focusing on beliefs about ideal modes of conduct and end-states worth attaining, we can potentially discover ways to *lead through values* (espoused) and *manage values* (enacted) and thereby adjust individuals' beliefs to make changes in project practices and outcomes (values-in-use). At least five possible research avenues emerge through this alternative perspective and are discussed as follows.

Multiple Levels of Analysis in the Study of Values

Where previous studies of project value primarily discuss value in a single project or program, viewing values as beliefs invites further research on the individual, organizational, and network levels. While certain project-level (expected or planned, and thereby espoused) values may become selection and prioritization criteria at the portfolio level (Martinsuo & Killen, 2014), they are linked with the parent organization in even more versatile ways (Riis et al., 2019; van Gestel et al., 2008). The interplay of values across the levels of analysis should also be explored further. As the industry and societal values and norms shape projects' espoused and enacted values, this value-laden influence by and through the environment also requires further attention as potential sources of conflict and debate. Similarly, projects' possibilities to renew the norms and values in their societal context is worth studying, as some projects are purposefully designed to renew industries and social conditions. Understanding the different levels of analysis could help in developing an in-depth understanding of *project cultures in their context*.

Change of Values Over Time

As cross-sectional studies cannot cover the evolving and dynamic nature of values, longitudinal studies could offer new information for understanding the management of values. Such studies take the form of event or process studies, and they could follow decision making and actions and how they develop as the projects proceed. Some studies already reflect this life cycle orientation (Artto et al., 2016; Fuentes et al., 2019; Matinheikki et al., 2016) and seek ways to accelerate projects' possibilities to deliver value (Svejvig et al., 2019), but they do not necessarily reveal the evolving nature of values over time. For example, more attention could be directed at the tensions among the values and how these tensions evolve and are resolved or convert to risks over time. Exploring the evolution and tensions concerning values over time could offer novel possibilities for the

temporal studies of interinstitutional projects (Dille & Söderlund, 2011; Dille et al., 2018).

Success as a Comparison of Expected (Or Espoused) and Achieved (Or in-Use) Values

Studies of project success have already pointed out the need to assess project success and performance using more versatile dimensions of value than merely reaching goals or efficiency (Atkinson, 1999; Shenhari et al., 2001). If the expected value is explicated properly at the front end of projects—and if stakeholders' specific espoused values are communicated—then comparing the achieved value with the expectations will become of interest in terms of each stakeholder's values-in-use (how the values have been transformed into practices and outcomes). A more nuanced multistakeholder view on the comparison of expected and achieved values could contribute to studies of project success. Thus, success is not just a singular objective measure, rather it needs to be compiled from multiple stakeholder-specific comparisons between achieved and expected values. The identification of gaps between the espoused and enacted values would also be helpful in activating learning toward the subsequent projects, when *assessing success* at project completion, and in certain follow-up episodes.

Managing Competing Values and Stakeholders' Different Priorities

Previous research approaches value dimensions as a list, as if all values are prioritized the same or hold the same position in the project. When viewing values as beliefs, the values necessarily compete and are prioritized differently by the stakeholders. There is a need to understand this value-related competition and the stakeholders' different priorities better. How are the competing values handled in different decision-making situations? How can they be prioritized during negotiation? What kinds of management mechanisms are needed to convert competing values into shared values? Since this value competition also spans across projects to multiproject programs and portfolios, there is a need to explore this competition on multiple levels of analysis (Martinsuo, 2019). Recent studies suggest that values in public-sector projects are prioritized across alternative simultaneous investment proposals due to political processes and limited funds (Martinsuo, Vuorinen et al., 2019; Vuorinen & Martinsuo, 2019). The comparative approach could offer novel perspectives on *project decision making under uncertainty* and the project's position in the parent organization's operations more generally.

Practice of Leading by Values

Finally, this article draws attention to the practice of managing values and leading by values. Thus far, the use of language, sensemaking, negotiation, and co-creation among project

stakeholders has already been identified, but often from the perspective of effort, tasks, or something other than values specifically. This article calls attention to values as a means of leadership in projects and project business. What do people actually do when they espouse and enact their values? Why do the values emerge and where (for example, which linguistic expressions and which behaviors)? Why and where are values absent or tacit? What mechanisms in the project and organizations enable the expression of leadership through values? What do managers do to *lead by* their values? The micro-level treatment of values, and even the observation of value-related discourse in detail, could be a novel avenue to contribute to research on *projects as practice*.

Conclusion

This article builds on the ongoing current debate and discussion regarding project value, offering further insight into worth-centric studies of project value by bringing in the social and behavioral viewpoints of values as beliefs. The article shows that the achievement and capturing of project value have been challenged by the subjectivity and plurality of stakeholders' values, the constant evolution of those values over the project life cycle, and the tensions between the different value dimensions and the espoused and enacted values. However, accepting these issues and acknowledging the diversity of human value-related beliefs will also enable the development of new means of managing values and *leading by values* in projects. While this article deviates from the idea that value could be engineered and controlled by project managers, owners, and other stakeholders; at the same time, it empowers the project stakeholders by giving them agency through the possibility of using their judgment and negotiation skills to thereby socially construct project value.

This article has suggested linking value-related research avenues to project studies concerning cultures and context, time, success, decision making, and practice, and it has thereby invited researchers to link project values with the values prevalent in the project's external context. After all, values affect projects not just from within but on multiple levels, from both society and industry. As projects take place in all domains of society, and the field is evolving fast, this article is limited by its primary focus on the previous research in industrial project business and the currently available research. This article's very general orientation serves as another limitation, since choices were not made regarding a particular project type, the level of analysis, or a specific group of stakeholders. It is clear that different project types, levels of analysis, and stakeholder groups deserve further (and individual) attention concerning their values and leading by values.

While the suggested research agenda guides project business research primarily, the specific nature of projects and programs as temporary organizations could also be informative for organization studies more generally. Studying values in the context of temporary organizations could enlighten studies of organizational

culture and routines, particularly in terms of the dynamics with which cultures change, starting from their micro-level routines and practices. Temporary organizations can also be informative for studies regarding decision making, since the parent organization's values and patterns of decision making are repeated across projects, offering fruitful contexts for studying the deployment of values in decision making. Studies of strategizing and organizing could benefit from learning from temporary organizations, particularly in terms of their interorganizational multistakeholder strategizing and organizing. Furthermore, the value-centric perspective in temporary organizations could offer new insights into studies of leadership by explaining why and how successful leadership can be developed over time.

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Conflicting Notions of a Project: The Battle Between Albert O. Hirschman and Bent Flyvbjerg

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Abstract

The field of project management has erected an impressive edifice of knowledge that apparently hinders us in learning anything from experience except what we already know. We will use the recent controversy between Hirschman and Flyvbjerg to trace this academic imposition to a narrow notion of a project and to find inspiration in a radically different notion for opening the field to new types of issues and lessons.

Keywords

Hiding Hand, Providential Ignorance, practical judgment, project notions, project success

Introduction

The winner's curse is a celebrated existential paradox; what we strived for may not be what we want when we get it because our sacrifices proved to outweigh the benefits (Thaler, 1992). Perhaps, there is also a risk of the “winner's curse” for project management research; the winning paradigm may have won its dominant position by sacrificing some of its intellectual curiosity. It seems that even when we try to learn from experience, we tend to confirm what we already know. When we try to kill bad ideas with sound methodology, often we reinvigorate the bad ideas. When we reach out to new disciplines or ideas, we tend to reduce them to fit our presumptions. When we invite academic debate, we end up petrifying it. What if—when we try to rethink the field of project studies—we risk killing the thinking?

In this essay, we will illustrate the risk of the winner's curse by reflecting on the reception of Albert O. Hirschman's thinking in the field of project management. The least of the problem is perhaps that his ideas, by and large, have been ignored. A few scholars have acknowledged his ideas and have portrayed him as “an early rethinker of PM [project management]” (Ika & Söderlund, 2016), while other scholars boldly rejected his ideas as being both wrong and deceptive (Flyvbjerg, 2016a; Flyvbjerg & Sunstein, 2016). It seems that Hirschman is an odd bedfellow for project management.

The following reflections aim to learn from the ill fate of Hirschman's work. We do not assume that Hirschman has already done the rethinking because we are the ones challenged to do so. The point is not to accept or reject his ideas and concepts but to take inspiration from them. It is the presumption of

the following reflections that Hirschman is offering a refreshing new view on central issues in project management that may allow us to imagine an alternative to the awkward body of knowledge in which the field is currently entrapped—philosophically, theoretically, and practically.

Let us begin by reviewing the remarkable academic controversy between Hirschman and Flyvbjerg to show how a conventional paradigm in project management defends its dominance to its detriment. This controversy may give us a hint about what we are up against if we want to rethink project management.

We situate the controversy between Hirschman and Flyvbjerg at a safe distance from the battlefields on which scholars currently fight fiercely over data, methodologies, and even the proper rendering of Hirschman's ideas and intentions (Flyvbjerg, 2016a, 2018; Flyvbjerg et al., 2018, 2019, 2002, Ika, 2018; Lepenies, 2018; Love, Ika et al., 2019, Love, Sing et al., 2019; Room, 2018). We maintain our distance from these fights by insisting that, in our case, the controversy stems from conflicting notions of a project, what it is, and what it should be. In our view, it is unlikely that rethinking starts with more

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data and better methodologies; it probably starts with a critical reflection on what it is we are thinking about.

Hirschman Versus Flyvbjerg

In 1967, Hirschman published *Development Projects Observed*. One of the aims of this book was to challenge the World Bank's notion of projects and their appraisal. He proposed to understand projects also in terms of their side effects and developmental by-products, suggesting a different rationale for project success than simple compliance with original business cases and cost-benefit analyses (Hirschman, 2014). However, his ideas and observations failed to convince the World Bank, never changed its practice, and never caught on in the rest of the field of project management (Alacevich, 2014). With few exceptions (e.g., Ika & Söderlund, 2016), Hirschman's seemingly unimpactful ideas about projects were left to rest in peace until now, 50 years later, when Hirschman's once-upon-a-time heresy has suddenly been subject to academic fire and fury. Having amassed much empirical evidence on the underperformance of large projects, Flyvbjerg (2016b) felt urged to wage war not only on Hirschman's ideas but also on his intellectual persona and legacy. From his vantage point, he saw Hirschman peddling wrong views, misrepresenting his findings, and misleading his readers.

It is perhaps no big wonder that Hirschman and Flyvbjerg would come to look upon reality in conflicting ways. After all, Hirschman was a "planner who really didn't believe in planning" (Gladwell, 2013), realizing that some drivers of change and development went under the planners' radar, whereas Flyvbjerg is a planner who strongly believes in the type of planning that aims to "get projects right from the outset" (Flyvbjerg, 2017b, p. 13). Hirschman and Flyvbjerg could also be claimed to differ in their primary focus. The former was impressed with the muddling-through character of projects (Lindblom, 1959) and searched for ways to appraise their achievements retrospectively, whereas the latter focuses on the premises of prospective capital investment decisions and aims to make them more realistic. Likewise, Hirschman inclined toward a broader notion of rationality, in the sense of changing the world in a desirable direction, whereas Flyvbjerg inclines toward a thinner notion of rationality, in the sense of making consistent choices (Elster, 2016).

Before reflecting further on the implications of this controversy between Hirschman and Flyvbjerg, let us focus on the central point of contention, the principle of the Hiding Hand.

The Principle of the Hiding Hand

When evoking the controversy, Flyvbjerg targeted one of Hirschman's most central ideas, the principle of the Hiding Hand, and the accompanying notion of Providential Ignorance. Here follows a short, somewhat idiosyncratic account of these ideas.

Projects of any kind and size face inherent and genuine uncertainty because they project action and outcomes into a future that cannot be known in advance, only forecasted. Forecasts imply "a large component of judgment, intuition, and educated guesswork" (Kahneman & Tversky, 1979, p. 33). Consequently, all projects are destined to face challenges and difficulties once they get started, simply because the forecasts rendered the subsequently experienced reality incorrectly or incompletely. However, since we initially thought and talked about projects as already accomplished actions (Schutz, 1973), our forecasts may have taken on the genuine nature of foreknowledge, which may further have fostered a feeling of being in control of the future by means of our intentions and decisions. Time is conflated into discrete moments of before and after, and one gets the sense that change will be implanted in the post-project reality simply by a priori choice and design (O'Driscoll & Rizzo, 1996). When outcomes deviate from anticipations, which they repeatedly do, it continues to come as a surprise and to create a sense of betrayal. The Hiding Hand is Hirschman's metaphor for our ability to neglect such consistent experiences and, therefore, to remain able to be surprised when history repeats itself. Alternatively, we might have learned from such experience that, in practice, the future is impossible to predict, let alone to choose, but we have not. We might have come to see future outcomes as a case of macrobehavior (Schelling, 1978), that is, the aggregate and cumulative outcome of multiple, parallel, and independent processes extended in real time, but we continue to consider them a product of our own, sometimes bad, intentions and choices.

The Hiding Hand helps us to maintain trust in our ability to foresee and choose the future. It does so by enabling us to ignore all the reasons why this cannot be the case: "The Hiding Hand does its work essentially through ignorance of ignorance, of uncertainties, and of difficulties" (Hirschman, 2014, p. 27). Note that the Hiding Hand does not hide the specific challenges and difficulties that will arise in the future because nobody knows (or can know) such things ahead of time—there is nothing to hide. It is the fact that we do not know, and cannot know, the future that is hidden, implying that we believe we need to know less than we do to project our acts into the future rationally. The Hiding Hand hides our ignorance about the future, saving us the worry that we must act purposely without knowing the exact consequences of our actions—but, of course, not saving us from the inevitable troubles in the future when stumbling into unforeseen situations.

Thus, the Hiding Hand lures us into committing to a project on the false premise that we know enough about the future to plan and to ensure the realization of our intended goals. Such false premises imbue all projects with a dubious start, which seems likely to translate into the significant underperformance that Flyvbjerg (2011) has uncovered. It appears that the Hiding Hand predestines projects to failure and subsequent regrets. Had the sponsors known the uncertainties and difficulties that

the Hiding Hand hid, they might well have decided against starting the project in the first place.

However, Hirschman added a new dimension to the conventional narrative described above. In his studies of significant development projects, he searched for and found surprising and salient impacts that had neither been planned nor openly pursued. Such side effects materialized, for example, when projects suddenly faced unexpected obstacles that forced them to invent new solutions or workarounds. They also materialized from the projects' gearing into the wider world, where they left traces potentially aiding some wider developmental purpose or that possibly established new premises for the projects' progress. If we retrospectively come to see such side effects as valuable, we may also come to appreciate the falsely premised (and, in many other respects, disappointing) projects for having occasioned something valuable, unintentionally and sometimes unobtrusively. Hirschman dubbed this phenomenon Providential Ignorance, suggesting that projects started on false premises may strike it lucky and accomplish something good; therefore, occasionally, they should be appreciated rather than regretted retrospectively. In this vein, Hirschman

made the pitch for the "centrality of side effects." This was an amplified earlier recommendation to look out for unexpected rewards from projects. But the gist was, more or less, the same: widen the lens when evaluating projects and look out for those unplanned and hard-to-quantify dividends. (Adelman, 2013, pp. 401–402)

While occasionally providential, ignorance is not, of course, the cause of positive side effects. Also, ignorance is not the cause of projects getting started. Projects start because somebody chooses to pursue a purpose or goal that is considered important and worthwhile. In a complex and unpredictable reality, there is an inherent risk that the project will not fulfill that purpose, at least not at a reasonable cost. Ignorance of such risks makes it easier to muster commitment to the designed project with the fulfillment of the purpose as the projected and promised outcome.

Thus, sooner or later, projects are predestined to run into dead ends, on which occasions those being held accountable for the project will be forced to improvise, that is, to think and act creatively by doing things that were neither planned nor preconceived but that, hopefully, will prove appropriate and useful. While far from guaranteeing the ultimate success in any traditional sense, such improvisation in the face of unforeseen situations may cause something new and valuable to be discovered and achieved. Since no planned situation will ever be planned in enough detail, all projects will repeatedly depend on some measure of improvisation and creativity to get ahead and reach completion. If success were considered dependent on such uncontrollable and unspecifiable future action, the whole venture might easily appear too risky; thus, the projects would not likely be started. Therefore,

they would also not run into situations that force somebody to improvise and to create new dividends, an aspect that Hirschman advised us to look out for. In this sense, we would have lost the opportunity for discovering and demonstrating new types of possibilities, values, and meanings, but also for developing capabilities to act constructively in uncharted situations.

Again, none of this suggests that projects start because of ignorance; it is also not suggested that learning from experience should enable us to count on and plan for such side effects in the future. Logically, if side effects were planned and intended, they would no longer be side effects (Elster, 2016).

In preparation for the next discussion, we will highlight the following points drawn from our reflections on Hirschman's ideas:

1. Ignorance about the future is an existential condition for projects, not a planning fallacy. Projects will necessarily be started on false premises because, in committing to do them, we presume to know enough about the future to act rationally and purposively. Thus, the alternative to falsely premised projects is not validly premised projects but no projects.
2. Committing to invalidly premised projects will serve us better than committing to no projects. This is true in general, even if we cannot know if it is true in any particular case. We cannot know how and why our commitment to invalidly premised projects did in fact benefit us until after the project has been completed. All projects must rely on the ability to improvise when the envisioned next step is unspecified, unfeasible, or unreasonable. All achievements hinge on such an ability. Without improvisation, few projects would reach a stage where it would make sense to evaluate their achievements.
3. While the "start digging" syndrome is cynical and disdainful (Flyvbjerg, 2016a), there may exist a need for a simplified and unreflective form of decision making that enables people to commit to projects on insufficient and narrow premises—and, thus, for some form of Hiding Hand to make us disregard our lack of knowledge about and control over the future. With luck, we may *eventually* come to encounter achievements that are due not to the design of the project but to efforts and happenstance during the implementation of the project. How such achievements count in the appraisal of the project is subject to practical judgment in particular cases. When success is no longer a simple measure of the distance between promise and achievement, project success becomes ambiguous and negotiable.
4. Inherently, projects entail risks, and ignorance of uncertainties and difficulties in the future makes people take more significant risks than they intend. No experiential learning can take away the fundamental unpredictability of the future, also because circumstances and contingencies are, to a large extent, situation and project

specific. Hirschman contended that people may learn to accept higher risks, suggesting that somehow future projects may be started with less ignorance of the innate ignorance. His ideas have been criticized by some for being elusive (Schön, 1994) and (improperly) construed by others as suggesting a reduction of the risk (Flyvbjerg & Sunstein, 2016).

While the field of project management aims to learn how to plan and select projects rationally, Hirschman aimed to learn how to accept the innate risk of projects without shunning the responsibility for their performance and accomplishments. It seems that a rethinking of project management also implies a rethinking of what we can learn from experience.

On this backdrop, let us now present a more conventional view on the reality of projects, that is, Flyvbjerg's view that seemingly annuls most of Hirschman's ideas and observations.

Slapping the Hiding Hand

In Flyvbjerg's view, the principle of the Hiding Hand is wrong, misleading, and irresponsible. Ignorance is bad, not providential. Hirschman's rehabilitation of it is immoral because it legitimizes irrational and undemocratic decisions primed by project peddlers. In short, it "leads to starting projects that should not have been started." (Flyvbjerg, 2016a, p. 176) Flyvbjerg considers Hirschman's deliberate search for a silver lining to unsuccessful projects is unscholarly and methodologically unsound. In effect, celebrating side effects is an ex post facto rationalization of poor decision making and project planning, Flyvbjerg seems to claim. He shares the perspective of Lovallo and Kahneman (2003) when ascribing the predominance of failures in his study of large projects to flawed decision making caused by delusional optimism and deliberate deception (Flyvbjerg, 2003).

Flyvbjerg enlists behavioral science as a whole in his war on Hirschman's heresy. He declares that a "Kuhnian paradigm shift" has occurred in the field of project management (Flyvbjerg et al., 2018, p. 183; Flyvbjerg, 2017a)—a shift that Hirschman (like many others) missed. While some have considered Hirschman an early student of cognitive biases, Flyvbjerg (2016a) diagnoses him as a victim of such biases. Repeatedly, he aligns Hirschman with the most unscrupulous politicians, like Mayor Willie Brown, known for his blunt "start digging" mantra. The Hiding Hand principle is claimed to serve as a legitimization of such opportunism. Like many others (e.g., Love & Ahiaga-Dagbui, 2018), Hirschman overlooked the "root causes" of project underperformance:

The root cause of cost overrun, according to behavioral science, is the well-documented fact that planners and managers keep underestimating scope changes and complexity in project after project ... It is not scope changes, complexity, etc. in themselves that are the main problem; it is how human beings misconceive

and underestimate these phenomena, through overconfidence bias, the planning fallacy, etc. (Flyvbjerg et al., 2018, p. 183)

In a sense, Flyvbjerg's root cause (ignorance of cognitive biases) resonates well with the notion of ignorance of ignorance, but he rejects Hirschman's tolerance for such ignorance on empirical and methodological grounds. What follows is our shorthand version of his indictment of Hirschman and his heretical ideas (Flyvbjerg, 2016a, p. 185):

1. Actively looking for unplanned successes, Hirschman overlooked or hid the predominance of failures.
2. A few case studies provide no proof that, as a general law, projects will typically compensate for a false start by discovering or inventing recovering action further downstream.
3. Playing with ideas concerning the centrality of side effects and silver linings is a poor substitute for methodical testing of empirical propositions. The aim to provoke (Hirschman, 1995, p. 129) is not a sound academic agenda.
4. Learning from Hirschman would undermine progress by legitimizing his openly admitted effort to give cognitive biases a positive connotation, as in his expression "a bias for hope" (Hirschman, 2001, p. 102). Being the root cause of underperformance, biases of all kinds should be debiased, not legitimized.

The ideas and findings that Flyvbjerg attributes to Hirschman are commonly disowned in the literature: "We now know that the Hiding Hand principle is overly optimistic about the downstream innovative capacity of megaprojects to solve the problems overlooked by upstream planners." (Davies, 2017, p. 37)

Flyvbjerg's takeaway from Hirschman's work turns out to be little more than a reaffirmation of his position, namely that the projects that failed to deliver according to plan should not have been started and, since they were started regardless, that the decision to start them must have been the unfortunate result of incorrect and manipulated forecasts of costs and benefits. Hirschman diverts efforts to improve project performance when he rationalizes achievements by pointing to side effects and hard-to-quantify dividends. The remedy to the alarmingly poor performance of projects is better-informed decision making.

Facts and Their Implications

In another context, Flyvbjerg acknowledges "the richness and originality of Hirschman's work and that he was a leading 20th-century intellectual and economist, well worth reading today" (2018, p. 383). If so, how is it possible for Hirschman to misconceive reality so thoroughly that his entire work on project management deserves bold rejection? Why are there no lessons or inspiration to be drawn from the richness and originality of Hirschman's work on development projects?

It may come as a surprise that Hirschman and Flyvbjerg do not disagree much about the empirical facts. Even Hirschman considers many of the propositions that Flyvbjerg attributes to him as “silly” (Hirschman, 2014, p. 10). If we did not know better, we would think that the following quote came from Flyvbjerg:

Exaggeration of prospective benefits is at least as common a device to elicit action as underestimation of costs. This error, specially when combined with an underestimate of costs, has of course often led to disaster—history abounds with examples, from bankruptcies and white elephants to lost or ruinously won wars. (Hirschman, 2014, p. 22)

If not the facts, what is the bone of contention? Arguably, it is the implications we should draw from these facts, which, as we shall argue as follows, depend on the notion of a project to which one subscribes. When introducing the notion of root causes, Flyvbjerg acknowledges both the fact of ignorance about the future and the possibility of an initial ignorance of such ignorance as an empirical phenomenon. He only objects to Hirschman’s suggestion that such ignorance of ignorance may be an acceptable premise for project planning. The issue is the neglect of the common experience that unknowable contingencies are impending, and he aims to bring such experience to the attention of decision makers by proposing, for example, an “outside view” (Lovallo & Kahneman, 2003) and “reference class forecasting” (Flyvbjerg et al., 2018). In this manner, biased premises for decision making are debiased, promising more successful projects from the outset.

What we should do differently in the future is not so much a matter of facts as a matter of practical (or value) judgment. According to Dewey, these judgments also imply “a judgment of what and how to judge—of the weight to be assigned to various factors in the determination of judgment” (1915, p. 517). Hypothetically, Hirschman and Flyvbjerg might agree that many projects have constructive side effects and still differ in their appreciation of this fact. Flyvbjerg would consider them a planning failure and therefore call for more and better planning; Hirschman would see them as unexpected opportunities and seek ways to take advantage of them. Flyvbjerg would define ignorance as a problem and seek to reduce it by sourcing more and better knowledge; Hirschman would consider ignorance a fundamental human condition and seek ways of escaping the looming fate of foolishness or inaction. Flyvbjerg would be concerned with the risk of starting projects that should not have been started; Hirschman would be concerned with the risk of missed opportunities, that is, projects that should have been started but were not. Flyvbjerg would be committed to banning unrealistic planning and undemocratic decision making, thereby making projects more beneficial prospectively; Hirschman would be committed to searching for examples of the ways agency, improvisation, and serendipity have made projects valuable in retrospect, which, in Flyvbjerg’s view, is an invitation to ex post facto rationalizations of wrong decisions.

Conflicting Notions of a Project

On several occasions, we have referred to underlying notions of a project as the key to understanding the controversy between Hirschman and Flyvbjerg. Such notions cannot be tested empirically against data and evidence, because it is the notion that determines how we judge the data and where we search for evidence. Therefore, choosing between such notions is difficult, as we shall see as follows.

Projects as Leaps Into a Designed Future

The implications that Flyvbjerg draws from his data and experience make good sense when a project is considered a consciously designed and planned *leap into a designed and desired future*. It is the pre-existing design that allows us to see if subsequent events fit and, if not, to take corrective action. Thus, there is no denial of the fact that the implementation of projects may be as riddled with contingencies and difficulties as Hirschman suggested. However, ideally, such contingencies and difficulties should have no impact on the realization of the projected outcome. The specific route a project takes toward its consummation may be erratic and oblique, but the destination is initially given by human choice and purpose. The common distinction between *project success* and *project management success* (Ika, 2009) seems to codify the ambition to make performance in terms of outcomes *independent of*, that is, causally insulated from, the travail and turmoil of performance in terms of process. By implication, the primary task of project management is to ensure that the project process remains *inconsequential* for the project achievements, as originally designed and decided. In turn, project governance will keep an eye on how the project managers handle this task:

the core purpose of project governance is to evaluate and shape the development of the project throughout its life cycle in such a way that its outcomes remain safe, strategically aligned and beneficial to the stakeholders, as agreed at the time of approval.
(Cicmil & Braddon, 2012, p. 222)

Ideally, from approval to completion, nothing of substantive significance for the project’s achievements should occur. In spite of accumulated knowledge on how to manage projects to such an effect, experience tells us that the task of making the implementation process inconsequential is not a trivial one. “Over budget, over time, over and over again” is Flyvbjerg’s (2011) short summary of the performance record of major projects. A high frequency of project fiasco is true in most sectors of society (Cicmil & Hodgson, 2006). When projects fail to deliver as promised, project management must have failed to make the implementation process inconsequential. While project managers are commonly held accountable for such failures, Flyvbjerg points out that they may also have been given an impossible task. As mentioned above, the root cause of underperformance is biased and manipulated decisions that send

projects off on a disastrous course—a death march (Yourdon, 2004)—in the sense that their ill fate is already sealed by the design. Less unrealistic estimates and forecasts would give project managers a fairer chance of surviving and reaching their destination by providing more slack resources in the fight against contingencies and difficulties. The poor track record of projects is no reason to renounce the ideal. The challenge is to bring practice closer to the ideal, *not vice versa*.

By honoring the ideal of making projects right from the outset, project management aligns itself with the central values and tenets of modern society. Decisions should be made rationally and governed by a logic of consequences (March, 1994). When projects are decided rationally, they become the collective embodiment of purposive human action. This constructs an image of projects as the most legitimate organizational form, and its popularity is testified by the proclaimed *projectification* of firms and society (Lundin & Söderholm, 1998; Midler, 1995), promising a welcome escape from mindless bureaucracy and unscrupulous politics.

Projects as Pursuit

Hirschman's notion of projects is different, if mainly implicit. It derives from his general approach to the social world, focusing on “the unique rather than the general, the unexpected rather than the expected and the possible rather than the probable” (Hirschman, 2013, p. 22). Every project represents ongoing experimentation. There is no leap into a preconceived future, since the future is accomplished in numerous small steps, that is, in moments of action. The projected future may set the project in motion and may well guide and inform action, serving as a *supra-act* (Ryle, 2000b). However, it will not reduce the need for agency in the face of contingencies, difficulties, and uncertainties. Presumably, such situations present actors with alternative routes, and the chosen routes will determine which destination the project may and will reach. Without such consequential agency, the project would come to a premature end.

Projects that are conceived as processes of pursuit and discovery must necessarily unfold in “disorderly and circuitous ways” (Offe, 2013, p. 591). Giving side effects and unplanned and hard-to-quantify dividends much emphasis, Hirschman rejected the pre-existing project design as the ultimate criterion for what fits and what counts. What is possible and appropriate to do is determined by the specific situation at hand, not the situation designed and expected. Situated judgment is required, and since such judgment is not preordained, each moment holds some significance for the fate of the project. The original design and promises are not (at least not necessarily) ignored but necessarily made subject to such situated judgment. Considering all the other matters of concern at some specific moment, how much weight these prior goals and plans should be given is part and parcel of the judgment of what to do next.

Hirschman's inspiration for seeing projects more in terms of pursuit than accomplishment should probably be sought far from the fields of economics and management, where

conventional project management finds its inspiration. Being a “lifelong admirer of the Russian's spiritualist prose” (Adelman, 2013, p. 24), Hirschman recognized contingencies as not only a fact of life but also as a driver of history. In the words of Morson (2013, p. 68), the future is not simply the “past to be.” All contingencies imply a fork in the road that requires small but consequential choices. In retrospect, such a multiplicity of choices will have ruined every preconception of being in control of events, of the future being decidable. Rather, since each moment holds contingency, “no moment has pastness until it is past” (Morson, 2013, p. 68).

If project implementation is such a muddle, Hirschman must find a role for project management that is more sophisticated (and demanding) than policing the integrity of the original design. Learning from Tolstoy, what is needed to manage projects (and conduct war) is to attend *wisely to what is happening*, relying more on the presence of mind than on plans, and learning from a multiplicity of experience without reducing it to simple lessons and prescripts (Morson, 2013, pp. 39–40). One of the challenges to management is the fact that every moment or event is enacted by real actors with “heterogeneous and often conflicting needs [that cannot] be reduced so as to ‘optimize’ demands and tactics” (Offe & Wiesenthal, 1980, p. 75). Were managers to treat participants as mere “factors of production”—as they appear in the plans and designs—moments of contingency, difficulty, and uncertainty would likely be turned against them. Taking inspiration from Offe and Wiesenthal (1980), we suggest that it is necessary to resolve these moments of potential conflict when things cannot happen according to plan by some form of collective deliberation, also implying that the resolution will simultaneously express and define the interests of the participants in the particular moment—and simultaneously express and redefine the identity and destiny of the project. For project managers, the challenge is to recognize (or construct) the forks in the road that the beaten track lures us into ignoring and to exercise the necessary pragmatic judgment in choosing between alternative routes, hoping to escape the predestined ill fate of projects managed according to conventional project management wisdom.

In conclusion, this notion of a project would seem consistent with a Deweyan projects-as-practice perspective (Buchan & Simpson, 2020), which in Hirschman's case shows in his:

deep and persistent aversion to “teleology and historical laws” that allow for strong predictions. Everything is possible, hopes may fail, and all depends on the right agency, which in turn depends on situational contexts, both favorable and unfavorable. (Offe, 2013, p. 585)

There is a complete reversal of roles for project design and project management. Hirschman directed attention to the critical role of project management in understanding project achievements. Project management is the never-ending task of exercising the right agency, attending wisely to what is happening, and of drawing on accumulated experience in a casuistic

manner—in “the root sense of the word” (Morson, 2013, p. 40). Thus, Hirschman was looking for project managers to strive to contribute constructively, but from a weak position, as actual outcomes are beyond the control of everyone, including the project management. Consequently, the eventual outcome should never be misconstrued as an easy indicator of the quality of the effort (Ryle, 2000a).

Knowing and Learning

Projects, understood as leaps into a predesigned future and as processes of pursuit and discovery, direct our attention to different aspects of reality and to pursuing different ideals of successfulness. Being incommensurable, they represent an impossible choice that we might feel forced to make. However, the spirit of our reflections is to seek ways of making them supplementary, not competing, notions. Where in the academic edifice of Flyvbjerg and project management could we find (or make) room for the insight and wisdom that Hirschman offers? Let us first examine the walls of the edifice a little closer.

The stronghold of Flyvbjerg and project management is the alignment with the idea of purposive human action. Unquestionably, we should aim to do only the things that will benefit us in the future. When rationally choosing to start projects, we should know what it requires to take us safely to the designated future. However, as Loasby (2000, p. 4) has cleverly suggested, the only way we can know such things is “by setting bounds to what we seek to know, and ignoring ... what lies beyond.” What we ignore because it lies beyond what we seek to know is the practices of pursuit and discovery that Hirschman chose to address. Acknowledging such concerns might risk undermining the very foundation of the body of knowledge in project management.

Setting bounds to what we seek to know might further explain why we seem to have exhausted the possibilities for learning from experience. We know how to ensure the success of projects by proper design, planning, and management; otherwise, we would give up the idea of purposive human action. When repeatedly experiencing projects that fail, we infer that the practice must have violated the established knowledge. Otherwise, they would have succeeded! Following Loasby’s reasoning, to know how to design and plan projects, we must necessarily ignore the complexities and difficulties of bringing projects to success—the same complexities and difficulties that we retrospectively scorn practice for having underestimated or mishandled. We protect our knowledge about how to rationally manage projects by framing experience in such a way that the recurrent failures do not change what we know. “Constant failure is a queer name for progress,” says Dewey (1915, p. 522). Thus, we may have entrapped ourselves in an awkward body of knowledge that allows us to learn only the things we know already. Academically, this could be considered the winner’s curse but it could also be appreciated as a safeguard against heresy. Thus, Flyvbjerg can safely add to the body of knowledge by arguing that reference class forecasting is the solution

to the root problem of underperformance but only because future underperformances will tell us that a stupid or unscrupulous underestimation must have occurred months or even years before. First, making attributions based on performance and then treating these attributions as the cause of the performance (Rosenzweig, 2014) make us unable to learn new things from experience. Since ignorance (or inattention) is, according to Loasby (quoted above), constitutive of the kind of knowledge that is required for us to imagine human action to be rational and purposive, the Hiding Hand may be gloved in new procedures for making decisions but still empowers people to start projects on the wrong premise that they know enough to control the future.

It is this academic edifice of project management that we want to open to learning, with inspiration from Hirschman. We do not suggest that he has an alternative edifice that should replace the current one. Hirschman’s aversion to knowledge in the form of historical laws and his pitch for casuistry would seem to allow him to collect stories with little operational usefulness, holding no “immediately applicable, ‘practical’ lesson” (Hirschman, 1995, p. 129). Without regrets, he prioritizes staying open to learning new aspects of reality over the building of a body of knowledge.

Conclusions

To reiterate, in project management, we seem to learn the same lessons from experience over and over again: that projects end “over budget, over time, over and over again,” that project design and plans are biased and that the decision to start the project is commonly manipulated by strategically miscalculated costs and benefits (Flyvbjerg, 2011). By way of conclusion, we ask: Might we possibly learn something more?

For example, might we learn what makes projects successful? If, by axiom, we treat the right forecasts as the way to success, there is nothing much we can learn except for more ways that a project can fail. However, following Hirschman, we might think of success criteria as partly endogenously established, thus functioning as a premise for and as an outcome of the project process. Sometimes, projects achieve things that render the formal criteria irrelevant at the end. Budget overruns may possibly even serve as an indicator of worth in the valuation of such achievements (Kreiner, 2017; Kreiner, in press). Not that they necessarily will, but that they possibly can, and that they occasionally will send such a signal. Rather than presuming we already know what success is and the criteria upon which to measure it, we might possibly pose the question and nuance the understanding of this central aspect of projects by discovering multiple and contingent ways for projects to succeed (Kreiner, 2014).

The notion of side effects suggests that there are concerns and interests besides the project makers’ that will, for one or the other reason, come to count. It has been suggested that “the project’s object—[e.g.] the infrastructure object—will continue to mobilise new actors and concerns. The concerns around the

object ... formulate and reformulate decisions on how to manage [the project]" (Revellino & Mouritsen, 2017, p. 298). In moments of contingency, project managers will have to negotiate a way forward and make judgments about the relative weight of multiple concerns to reach a judgment of what to do next. To understand how such consequential, practical judgments are made we need to identify with the project managers and understand the dilemmas faced in practice. This would also imply that we need to construe of the project, not in the abstract terms of the project design, but with regard to the concrete, also material, terms of specific moments calling for inquiry and action (Buchan & Simpson, 2020).

Furthermore, it is easy to imagine that the project manager might act in the best interests of the project (and ultimately the client) by compromising the promises that premised the decision to engage in the project, simply because any other judgment might result in even bigger sacrifices, including the potential discontinuation of the project. Thus, the prevalence of fiascoes based on the traditional criteria may indicate that the probability of discovering, along the way, more salient values, concerns, and interests than keeping the original promises is very high. Therefore, an apparent project fiasco might also be investigated as a potential case of successful project management. Ultimately, not any overrun or shortage will come to be seen as a success, but, possibly, if we actively look for reasons to consider them successful, many of them would be valued constructively, as Hirschman suggested.

Such ideas may seem heretic and would seem to violate cultural norms about keeping one's promises. The design of the project has been conceived to imply the translation of the notoriously uncertain predictions and anticipations of achievements into specific, often contractually binding promises (Mouritsen & Kreiner, 2016). Conventionally, a promise is supposedly only valid if the promisors are trusted to be able to keep their promises (Brandes, 2010). In terms of the project context with a poor track record, such trust seems plucked out of the air. However, we may see these promises as founded on contracts rather than interpersonal trust, making the promisors accountable and culpable if things should go wrong. Thus, in practice, the role of trust may be ambiguous. If we trust that we can contain the consequences of the betrayed promises, we need perhaps not wholly trust the promisor before moving ahead. The promise becomes an issue of negotiation between parties, none of whom are much concerned with the realism of the promise and who are possibly driven merely by opportunistic interests. Furthermore, it seems likely that such negotiations are not between equals. Project makers may often possess a monopsonist's power to extract potentially unreasonable promises from participants and suppliers of knowledge and economic resources to the project (Winch, 2013; Winch & Kreiner, 2011). Thus, the moral issue concerning projects and promises has two sides. First, there is the standard issue of project peddlers making false promises. Second, however, there is the issue of project makers exploiting their superior power to extract promises that the promisor is unable to keep. New issues would emerge if we allow the moral issues concerning promises to

include both the making of unrealistic promises and the extraction of unfair ones.

Academically, we might support Flyvbjerg in scorning Hirschman for making a virtue of his bias for hope. Yet, such a bias may exemplify the mechanisms for creating a commitment to action in the face of risk and uncertainty. In Schelling (2006), p. 1) conception, commitment implies "becoming committed to a course of action," "relinquishing some choice" (e.g., exit in the face of contingencies), and "surrendering some control over one's future behavior." When we accept that the achievement of the project is not independent of the effort and agency during the project process, nobody would doubt the need for creating a commitment to the project beyond contractual obligations. The source of such commitment is an empirical question, but the design of the project, narrating its purpose and goal, would seem to offer an opportunity for nurturing commitment by placing the project in a grander scheme of things than can realistically be justified. Thus, creating commitment and thereby seeking to make projects successful works against Flyvbjerg's concern for the rationality of starting projects. Combining the two concerns, we might come to appreciate the notion of *action rationality* (Brunsson, 1985), which implies a simplified and less reflective form of decisions that goads people to action, causing us to realize that more elaborated decision procedures will not necessarily produce more valid decision premises in a notoriously uncertain and complex reality.

Opening the notion of a project to incorporate more concerns and interests might potentially also change the facts from which we try to learn. Conventionally, the costs that determine success and failure are the costs to the client only. Including the costs to all involved parties would change the measures of the project performance. We know that the distribution of costs is recurrently negotiated during implementation and often continued in legal litigation after completion. Such observations should add to our understanding of cost performance, causing us to consider it not merely a matter of forecasting but also a game of passing the buck.

Finally, if we refrain from presuming that success is the absence of failure, we might come to learn the multiple ways a project may succeed in practice. The context-specific valuation of projects and their achievements involves multiple judgments and interest-driven negotiations between stakeholders. Rather than defining the value and success of projects, project management might study the processes by which such valuations are reached. We may still claim to know a great deal about projects, even if we allow ourselves to play with the implications that we can draw from such knowledge.

There is more life and strife in the edifice of project management than we have suggested in this essay, and Hirschman is also far from the only one chiseling cracks in its walls (e.g., Drouin et al., 2013; Geraldi & Söderlund, 2018; Hodgson & Cicmil, 2006; Lundin & Hällgreen, 2014, Lundin & Midler, 1998; Sergi et al., 2020). There are more nuances to both Flyvbjerg's and Hirschman's positions than we have covered. Thus, there will be ample opportunities for rejecting our ideas and killing the underlying thinking. However, next time we get surprised and morally

offended by the poor performance of some major project, we should send Hirschman a thought, asking ourselves how we manage to get surprised and provoked when history repeats itself and conforms to our theory about it. And, next time we happen to review projects in action, we might strive to learn something new, for example, by contemplating the possibility that innocence (March, 1999), that is, not attending to the way we know projects normally are, is a wiser strategy than taking all imaginable precautions against what will generally, expectedly, and probably happen. It is well to know what an outside view might reveal, but we lose something essential about projects if we do not pursue them as unique, as experiments, thereby allowing ourselves to explore and to appreciate the unexpected and improbable, to discover new possibilities.

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Project Studies Beyond the Straitjacket: An Escape Artist's Manual

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Abstract

This article provides insights into ways in which project studies can be extended to make further impact on and contributions to other research domains, including more general management and organization studies. Inspired by literature on the phenomenology of science, publication practices, logics of research communities, and theory building, we analyze some examples of project studies that reach beyond the project domain. Based on this analysis, we present an “escape artist’s manual” consisting of strategies and practices for how researchers could think about and design project studies to enable contributions beyond the home domain.

Keywords

project studies, phenomenology of science, project management, theory development, academic escapology

Introduction

Projects abound in society, and the scholarly interest in projects is ever increasing. Project studies today are also attempting to provide contributions to other domains, including more general management and organization studies (Söderlund, 2011), although the impact could be more profound. Searches for *projects* in management journals outside the project domain provide limited hits, and projects are covered only occasionally in standard management textbooks. Therefore, it makes sense to ask how contributions from project studies can be developed to further increase the impact on other research domains. In this article, we argue that project studies have a lot more to offer other research domains, but that project researchers can be more skillful in generating new contributions and conveying their results to audiences outside the home domain.

However, providing a complete roadmap for how to reach beyond the project domain is far from a straightforward endeavor. To further claim that the authors of this article would have *all* the answers to this would be presumptuous. Still, in answering the call of this special issue, we aim to demonstrate and outline *one* way that studies of projects could enrich other research domains and thus develop project studies at large. We call this approach “*an escape artist’s manual*.”

The starting point is an article by Jacobsson and Söderholm (2011), who argued for the need for project studies (and project researchers) to reach beyond the project domain or, as the title of their article indicates, “*to break out of the straitjacket*” of traditional project research. In their concluding paragraph, Jacobsson and Söderholm (2011, p. 386) claimed that, for

project studies to be truly relevant, projects as an empirical phenomenon “must be relegated from being the centre of research to one case among others.” The authors were implying that the relevance of projects cannot be taken for granted by project researchers; instead, the relevance needs to be illustrated in relation to other organizational forms and phenomena if projects are to have a larger impact on other domains, including general management and organization studies.

In this article, we take these claims further by elaborating on how researchers can think about and design project studies to increase the potential contribution beyond the project domain. We argue that one way to achieve this is based on exploring the interconnectedness between the salient characteristics of projects and the domain to which a particular research effort aims to contribute. Researchers whose aspirations are to reach beyond the project domain with their contributions must also act like an “escape artist” in that they need to develop a “discursive competence” and understand the phenomenology of the domain to which they aim to contribute. We use the term “escape artist” in order to further develop the straitjacket idea

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presented by Jacobsson and Söderholm (2011) and also to indicate that this is not only a scholarly approach. It is also an art form where the scholarly equivalent to an escape artist would need to develop and use a combination of skills and strategies to break out of one domain and enter into another one.

Breaking Out Again

Despite the forward-looking focus of this article, history should not be disregarded when explaining why contributions from project studies have had limited reach beyond the project domain. Part of the explanation comes from the heritage in the military-industrial complex (Scranton, 2014), the basis in operations research (Packendorff, 1995), and the strong anchoring in operational practice and problem solving (Blomquist et al., 2010). Another part of the explanation comes from influential professional organizations (such as the Project Management Institute [PMI] and International Project Management Association [IPMA]), which have long upheld a discourse of projects as a tool or method rather than a form of organizing (Jacobsson et al., 2016; Söderlund, 2004a). Other parts of the explanation can be found in the ways in which the academic domain of project studies is organized and how research and academic publishing have developed at large.

In their 2011 article, Jacobsson and Söderholm analyzed the contemporary state of project studies and outlined how different ways of doing research, as well as different audiences within the project domain, had emerged (Jacobsson & Söderholm, 2011). They outlined four streams of project research: three within what is commonly considered the project domain (Söderlund, 2004b) and one reaching beyond the existing domain. In their analysis, they built on Davis's (1971) seminal work of what makes theories interesting. Davis's (1971) phenomenologically inspired assertion is that interesting theories are not interesting merely because they are true, but because they *deny* certain taken-for-granted assumptions of the audience. Non-interesting theories, on the other hand, *affirm* such assumptions (Davis, 1971). The logic is as simple as it is applicable. If presented with a statement or theory that is already part of our mental schema of what we perceive as plausible (that is, our taken-for-granted assumptions), we tend to respond, '*that's obvious*' or '*everybody knows that*' (Davis, 1971, p. 311). If we are presented with a proposition that is totally outside our mental schema, we respond, '*that's crazy*', but if presented with new information that challenges our assumptions to the right extent, we react with, '*that's interesting*'! One could thus argue that interest, like beauty, is in the eye of the beholder, and in order to be (perceived as) interesting, one needs to be able to understand and challenge the taken-for-granted assumptions of the prospective audience (see, e.g., Zahra & Newey, 2009).

Jacobsson and Söderholm (2011) are not unique in discussing different streams of research and/or the phenomenology of science. For example, Corley and Gioia (2011) used Davis's ideas in discussing theory building in management sciences in relation to originality and utility. Alvesson and Sandberg (2014) claimed that research is increasingly targeted at satisfying, or

contributing to researchers of the same domain, or box, with the same taken-for-granted assumptions and argued for the need to produce box-breaking, rather than boxed-in research. They also claimed that prospering academic practice generates a shortage of novel and influential ideas due to increased specialization and boxed-in research. In the project domain, based on Habermas's knowledge constitutive theory, Gerald and Söderlund (2018) outlined and discussed three types of project research: Type 1 is a technical interest that mainly focuses on prediction and control; Type 2 is an interest in the nature and dynamics of a project as a social system; and Type 3 is "based on the human interest of emancipation, where critical reflection culminates in deliberate changes in the status quo" (Gerald & Söderlund, 2018, p. 60).

If Davis's (1971) logic of what makes theories interesting is applied on the possibility for project researchers to make an impact beyond the project domain, the argument is as follows. Challenges made by project researchers cannot be too bold (or unrelated) or they will be perceived as unlikely or irrelevant by recipient domain proponents. On the other hand, if existing domain assumptions are merely confirmed, vaguely reinterpreted, and not challenged based on findings from project studies, they will be considered boring and as providing no or marginal impact. Consequently, researchers interested in project phenomena and who aspire to reach beyond the project domain need to find a balance between being *bold and boring* in the eyes of the audience. To this end, project researchers need first to develop *discursive competence* where the core question would not only be what project studies can offer, but also what other research domains need.

Discursive Competence and Microtribes

The protectionist mind probably reacts to the proposal of asking: what other research domains need as a way of dismantling project studies, ultimately leading to the death of project studies as we know it. However, we would argue for the opposite—that protectionism ultimately leads to lack of relevance and potential death in a metaphorical sense. It should, of course, be acknowledged that the institutional pressure—in the way in which research is organized, communities are developed, publications are assessed, and individuals are promoted—often pushes individual researchers to act in a protectionist or boxed-in way. In simple terms, boxed-in specialization and exploitation of domain knowledge is often the fastest and easiest road to success and an academic career. Exploration is however harder to achieve. The authors of this article are not exempt from this exploitation pressure and over the years have produced plenty of boxed-in contributions; they have also made more or less successful attempts to break out of the project box (or domain). Still, in discussing this potentially vicious circle of academic protectionism, Alvesson, Gabriel et al. (2017) argued that researchers have developed (or run the risk of developing) into microtribes among other microtribes, each subject to an internal logic of safeguarding interests and often ignoring the development and history in other domains. The same

authors argued that acting in a way that only strengthens the microtribe(s) in its current form (that is, mere exploitation of domain knowledge and communication within the home domain) limits the opportunities to take on some of the grand challenges of society.

Therefore, as stated at the outset of this article, it is of interest to break out of such protectionism and achieve exploration, rather than mere exploitation of domain knowledge. In other words, it is of interest to further develop processes for contributions across different domains, by engaging with other microtribes and, more specifically, creating contributions based on project studies that are found interesting by other management areas. In order to do this, however, we propose that researchers need to develop a *discursive competence*.

Starting with the notion of *discourse*, a Foucauldian interpretation of the concept implies that it is a matter of ever-changing power relationships expressed through language and practices (McHoul et al., 2015). In the realms of academia and research, such discourse is established through processes of collective learning in a shared domain (Wenger, 2011), theory, or practice, manifested in such forms as conferences, interest groups, and joint publication outlets. Using the ideas of Wenger et al. (2002), the language and practice in these domains mirror the institutionalized understanding of how things are done, which is negotiated and aligned within a community and manifested in a collective set of taken-for-granted assumptions.

Combining the idea of discourse with the logic of Davis (1971), the recipient domain—or, in the terminology of Alvesson et al. (2017), the safeguarding microtribe—must therefore be thoroughly understood and challenged if an interesting and relevant contribution is to be made. To be really successful, project researchers might even need to master the conventions, rituals, and jargon of other microtribes, as these are likely to change, depending on both the social milieu (Morgan, 1980) and the theoretical focus (Jacobsson & Söderholm, 2011). Thus, a discursive competence could be defined as *the ability to decode and tap into the mindset and manners of the recipient microtribe in order to operate in an acceptable manner in the recipient domain*. A discursive competence, we argue, is essential in order to develop interesting project research that transcends the boundaries of more traditional project studies.

Strategies and Practices to Create Contributions Across Domains

Locke and Golden-Biddle (1997) provided an interesting discussion that outlines a way to use the notions of discursive competence to develop and communicate contributions across domains (even if the authors did not directly refer to it as discursive competence). In their article, they investigated how contributions are made to organizational studies in terms of textual constructs and highlighted two processes: (1) structuring intertextual coherence and (2) problematizing. While the former deals with the creation of coherence (either synthesized, progressive, or non-coherence),

the latter is concerned with the situation to which the contribution is made (either as incomplete, inadequate, or incommensurable). Their conclusions are based on an empirically grounded study, but it is possible to discuss their findings as potential strategies to use to facilitate contributions. Locke and Golden-Biddle (1997) did not particularly discuss contributions across domains or microtribes, even if the processes described in their article could be considered strategies to achieve what Davis (1971) would have labeled *interesting* for a particular audience.

Davies et al. (2018) proposed another strategy by looking into cross-fertilization between the neighboring research domains of innovation management and project management. They noted that relations between research domains can be quite superficial if concepts and ideas from one domain are encapsulated in the other domain, thus contributing to domain exploration and research specialization rather than cross-fertilization. However, if meta-theories and community-building initiatives are added, a more comprehensive cross-fertilization may be achieved. In that way, meta-theories could provide a basis for the joint understanding and development of two neighboring domains. Meta-theories could, in terms used by Alvesson et al. (2017), be understood as the research area of a meta-tribe in which several microtribes reside. Zahra and Newey (2009) discuss the hierarchy of scientific knowledge in a similar way using more traditional language. They differentiate between theories (e.g., change theory), which aggregate to fields (e.g., organizational behavior), which aggregate to disciplines (e.g., organization studies). Consequently, different theories within the same field can use the field as a joint meta-theory platform, and different fields can relate to each other within the platform represented by the discipline. Even though research specialization over the years may have separated the tribes, there are some roots or common meta-theoretical standpoints on which they rely. This common ground can be used for communication and cross-fertilization between domains and microtribes.

Along similar lines, Kuura et al. (2014) pointed out that there is also a cross-fertilization possibility to explore by linking different research practices and empirical practices to each other. For example, research in one domain may seek inspiration from another domain of practice or theory (what Jacobsson and Söderholm [2011] labeled as “*in search for inspiration*”) or research practices in different areas finding synergies based on interaction. Kwak and Anbari (2009) provided an overview and discussion of which domains could be considered neighboring project studies. They discussed eight allied domains to project studies (such as operations research, organizational behavior, and human resource management) and showed that publications on integrated subjects covering projects and at least one of the allied domains are becoming more frequent. Allied domains, or overarching meta-theories, are both approaches used to define areas where there is a conceptual resemblance on which cross-fertilization can be built.

The intersection, or cross-sectional, connections among different research areas, can prove to be useful for theory building in different ways. A neighboring field could, as mentioned, be

an inspiration for theory building or it could have a major impact on the core of the theory. Zahra and Newey (2009) discuss this in terms of mode 1 (borrowing and replicating), mode 2 (borrowing and extending), and mode 3 (transforming the core). They also discuss levels of knowledge areas where different theories build a field, and different fields build a discipline; intersections can be defined on all these levels and most definitely, among levels.

In summary, the literature has described that contributions can be made in at least three directions. First, between neighboring domains (such as project studies' contributions to new product development research). Second, between practice in one domain and theory in another domain (for example, studies of entrepreneurial behavior in projects to enrich entrepreneurship theory). Third, more generally, between a specific domain (such as project management) to meta-theory within social science or broader theoretical areas such as general management theory or organization theory. Thus far, domains have primarily been defined as parallel or neighboring research areas; however, when we refer to the recipient domain in the following text, it could be either a neighboring research area or a meta-theory in terms of a broader theoretical area.

Community building—another useful process identified by Davies et al. (2018)—is joint research-related practices among scholars from different, but neighboring, domains. The practices could be anything from conferences to workshops, special issues, and PhD training events that increase interaction and collaboration among scholars and promote a deep and insightful discussion on common subjects. By creating joint communities through interaction among scholars, the mutual understanding increases as does the willingness to contribute to each other or to formulate new, cross-fertilized, research agendas, studies, and publications.

Davies et al.'s (2018) identification of the social aspects of research represents an important observation. In addition to facts and theories, there is also a need for social interaction involving individual scholars that jointly agree to contribute to a common good or engage in cross-fertilization activities for a deeper and more profound contribution across tribal borders. Tribes, as such, are obviously made up of the tribal members that constitute the tribe. Alvesson and Sandberg (2014) also highlighted social dimensions as important when making so-called box-breaking research efforts, such as conferences, seminars, and developing relationships with colleagues.

Another important contribution emphasizing the importance of social skills and social dimensions of scholarly work is that of Huff (1999), who discussed how to choose conversants and how to make good conversation by being polite, connect with what is already said, and consider what would interest the conversant. As Huff (1999) points out, this conversation advice is taken from social life but must be implemented not only in social interaction but also in text. If you want to break through a barrier—or break out of the straitjacket—you must demonstrate your ability to communicate in a way appreciated by those on the other side of the barrier (other microtribes in other

domains). Consequently, social rules could also be applied to academic communication if the text itself is part of a strategy to create a contribution to other domains.

Beyond the Straitjacket

Following the various strategies and practices reviewed in the previous section, it is necessary to explore the salient project characteristics or concepts that can be used to successfully create contributions beyond the project domain. To explore such characteristics, but also start to outline a way for how research on projects could enrich other domains (including more general management and organization studies), we have analyzed a few examples of box-breaking research; that is, research on projects that contribute beyond the project domain. More specifically, we used Gersick's (1989) study of project groups, Bechky's (2006) study of role-based coordination in film projects, Lindgren and Packendorff's (2006) study of how gender is reproduced in project-based firms, and Jacobsson and Hällgren's (2016) study on the nature and role of impromptu teams. These four examples are analyzed and juxtaposed in Table 1.

Gersick's (1989) classical study investigates the role of time in project groups. She introduced, among other things, "midpoint transition" as a concept for understanding how time perception changed as time in projects became scarce. Contributions are mainly to research on small groups, social interaction, and group development. The salient characteristic that enables this contribution to be made is the challenged notion of temporality and time perception, which is shown to be unique to these project groups compared with previous studies on timing and group dynamics. The second example is Bechky (2006), who studied how coordination can be based on enacted roles instead of positions in situations lacking a formal structure. Film projects are used as the empirical setting for the study. Role expectations, enactments, and continuity across organizational settings provide a continuous yet negotiated way to coordinate work. The contributions to be made are to the field of coordination research, where taken-for-granted assumptions are challenged on the basis of salient characteristics of less formal structures in projects and the institutionalized role expectations in this specific setting.

A third example can be found in the work of Lindgren and Packendorff (2006), who studied the reconstruction of gender in project-based organizing. The empirical setting is project teams in an IT consultancy company. The salient characteristic used to challenge existing assumptions is the clearly delimited episodes of work, which acted as a *pressure cooker* in terms of how traditional masculinities were reproduced, thus contributing to gender research. The final example is the study on impromptu teams in temporary organizations by Jacobsson and Hällgren (2016). Their study challenges commonly held assumptions that groups are purposely formed to deal either with expected or unexpected events. Climbing projects are used as the empirical setting where a high level of uncertainty and sudden change of events constitute

Table I. Examples of Contributions Beyond the Straitjacket

Examples of Box-Breaking Contributions				
Intrinsic approach	<i>Marking Time: Predictable Transitions in Task Groups</i> (Gersick, 1989)	<i>Gaffers, Gofers, and Grips: Role-Based Coordination in Temporary Organizations</i> (Bechky, 2006)	<i>What's New in New Forms of Organizing? on the Construction of Gender in Project-Based Work</i> (Lindgren & Packendorff, 2006)	<i>Impromptu Teams in a temporary Organization: On their Nature and Role</i> (Jacobsson & Hällgren, 2016)
Identification of recipient domain	Project studies contributing to small-groups research	Project studies contributing to coordination theory	Project studies contributing to gender research	Project studies contributing to group and team research
Articulation of specific key assumptions and characteristics of the recipient domain	Development in small (short-term) groups is understood as sequential and timing is not considered central to group dynamics.	Coordination is primarily understood under stable conditions where structure, plans, routines, etc., provide the frequent basis for coordination	Gender is a power system of society reproducing segregation (the separation of sexes) and hierarchization (primacy of masculine norms)	Groups are primarily acknowledged as deliberate formations of actors aimed at dealing with either expected or unexpected events
Assessment of key assumptions in relations to the salient characteristics of project studies	Temporality is an inherent feature of project groups, which challenge previous assumptions	Networks of relationships, a determinate lifetime, and variability of staff challenge these assumptions	Clearly delimited episodes of work make it possible to apply entirely different norms that challenge existing assumptions	High uncertainty and sudden change of events is a central characteristic in these project teams that challenge existing assumptions
Consideration of assessment in relation to prospective audience and formulation of an alternative assumption ground	Under these alternative conditions, groups' attention to time and pacing functions as a catalyst of their progress through projects leading to a midpoint transition	Under these alternative conditions, role expectations and enactment proved a negotiate way to coordinate work	Under these alternative conditions, the reproduction of traditional masculinities is even stronger than 'outside' the project context	Under these conditions, impromptu teams are formed, characterized by voluntarism-based membership, and a logic of practice based on appropriateness

salient characteristics. Under these conditions, a rare team type—impromptu teams—is formed through a voluntarism-based membership and a logic of practice based on appropriateness; thus, contributions are made to groups and team research (Hällgren & Jacobsson, 2019).

In addition to using salient characteristics of respective project setting to challenge specific key assumptions of the recipient domain, a common feature of all the above-described examples is an intrinsic approach that enables the contributions to move beyond the project domain. As summarized in Table 1, the approach identified consists of four steps: (1) identification of the recipient domain, (2) articulation of the key assumptions and characteristics of the field, (3) assessment of these in relation to the salient characteristics of project studies, and (4) the assessment of the audience and formulation of an alternative assumption ground.

In the next section, this approach will be further discussed in relation to the previously outlined strategies and practice to create contributions beyond the project domain. The descriptions of the four steps are related to the discussions by both Davies et al. (2018) and Alvesson and Sandberg (2014), in addition to the conversational advice pointed out by Huff (1999). In the terms used by Zahra and Newey (2009), our approach is close to a mode 3

(transforming the core). Thus, the approach has a combined social and academic component; for example, each step requires both academic and social skills to be well performed, and the steps are therefore part of a process that can be part of academic training and done systematically. In outlining this, we will use the article by Bechky (2006) as an illustrative example.

An Escape Artist's Manual

As outlined in Table 1, the approach by which the four examples move beyond the project domain is built on the interconnectedness between the salient characteristics of projects and the theoretical domain to which a particular research effort aims. As a result, the contributions have been acknowledged outside the project domain and they are simultaneously rooted in research or empirical practices from the world of projects. Therefore, it is not primarily a matter of where articles are published but how the contributions are constructed and to which audience they are targeted. Publications can appear in journals outside the traditional project research area and still be targeted at the project audience and vice versa. For example, refer to Söderlund's (2011) overview of publications in respected

management journals contributing to the *seven schools of thought* of project studies.

When further discussing how the process of achieving the box-breaking contributions has been designed, it should be noted that the outlined approach may not have been a deliberate tactic that the authors used to create their contributions. This is something we don't know. Nevertheless, it would still be possible to assign specific strategies and practices to each component in the approach based on the literature review discussed earlier in this article. In so doing, the outline of *an escape artist's manual* for box-breaking research is emerging; a way to "*break out of the straitjacket*" of traditional project studies. In addition to being a play on words, this phrase also highlights that, to break out of one domain and enter into another one, scholars need to develop and use a combination of social skills and theoretical knowledge.

Identification of the Recipient Domain

The first step of our proposed escape manual is to identify the recipient domain, which requires a non-protectionist mindset with an open attitude toward, and genuine interest in, other domains. The domain also needs to be outlined in terms of common research outlets, classic or seminal contributions, literature reviews, and research contributors. Bechky (2006) observed the potential of temporary organizations (i.e., project studies) to contribute to traditional coordination theory based on their temporality and the way they are governed. When framing this in the article, she wrote, "Temporary organizations contrast with traditional hierarchical organizations as they are governed through networks of relationships rather than by lines of authority (Jones et al., 1997; Powell, 1990). Thus, coordination across firms in these networks relies more heavily on social mechanisms such as reciprocity, socialization, and reputation (Jones et al., 1997)" (Bechky, 2006, p. 3).

Similar to the above example, the recipient domain (here, coordination studies) needs to share some common ground with project studies, so meta-theoretical understanding and discursive competence are essential. Consequently, researchers and research teams should not only develop skills in a narrow project domain; they should also develop a broader understanding, and a wider portfolio of reading is thus required and should be promoted by senior researchers. As Kuura et al. (2014) noted, such broader understanding and cross-fertilization can be done in various ways, such as exporting, importing, and integrating theory and practice. Thus, included strategies are a non-protectionist mindset, cross-fertilization practices, and meta-theoretical discourse understanding.

Articulation of Specific Key Assumptions and Characteristics of the Recipient Domain

Once the domain has been identified, the current debate—or, perhaps, never-ending debates—in the domain should be understood and articulated. To start this process, it is necessary to know the characteristics of the recipient domain (or micro-trIBE or box; see Alvesson & Sandberg, 2014; Alvesson et al.,

2017). This necessitates a discursive competence, defined as the ability to decode and tap into the mindset and manners of the recipient domain in order to operate in a way that is acceptable. This also includes an understanding of the need of the recipient domain. What are the unresolved issues or the conflicting areas to which contributions could be made? What are the conceptual areas where there is a need for more profound analytical approaches? In other words, try to connect with points already made, as Huff (1999) suggested.

Regarding the needs, differences, and potential for contribution, Bechky (2006) argued that coordination is commonly understood under stable conditions where structure, plans, routines, and so forth provide the frequent basis for coordination. Bechky wrote, "... an investigation of the actual practices of coordination in temporary organizations would not only help us understand the implications of this form for the work of its members, but also provide insight into how coordination is achieved more generally in settings with few formal organizational structures" (Bechky, 2006, p. 4).

A thorough understanding can be created by engaging in research discussions in seminars, conferences, or workshops, expanding reading assignments, and digging into the core concepts of the recipient domain. It is always good to be part of a team and share both the workload and experiences; strategies to facilitate this include discursive competence, community building, and research training.

Assessment of Key Assumptions in Relation to the Salient Characteristics of Project Studies

Project studies have their own core concepts and salient characteristics. One generic example of a set of concepts are time, task, team, and transition (Lundin & Söderholm, 1995), which are built on project definitions in practice and later turned into theoretical concepts. Jacobsson et al. (2015, 2013) discussed both an internal and an external focus on projects and placed the above-mentioned concepts as the internal focus. An external project focus, by contrast, is built on concepts such as goals, expectations, and control.

Assessing such characteristics could be a matter of finding conceptual resemblance with other domains. The points to be made here are (1) that in order to assess possible cross-fertilization possibilities, the juxtaposing of salient characteristics of project studies with those of the recipient domain requires a thorough and open-minded approach; and (2) the starting point needs to be taken in the recipient domain and based on the key assumptions of that domain. Ask not what project studies can offer, but what the recipient domain needs.

Bechky (2006) took the starting point in previous conceptualizations of coordination and the conditions under which these conceptualizations have been made. She then contrasted that with the determinate lifetime and networks of relationships in temporary organizations; that is, using the salient characteristics, (limited) time and team (networks; Lundin & Söderholm, 1995). Similarly, the salient characteristics used in the other analyzed examples of *box-breaking contributions* are: temporality and

perception of time in Gersick's (1989) study, bounded episodes of work in the article by Lindgren and Packendorff (2006), and high uncertainty and sudden change of events in the study by Jacobsson and Hällgren (2016). As previously stressed, these are just examples of characteristics, not an exhaustive list. The limitation in trying to outline a more complete list is that uniqueness is *relational* rather than *absolute* in that it is a matter of interconnectedness with other domains. What is unique in one situation (with one domain) might not be unique in another situation. Therefore, uniqueness related to salient characteristics needs to be outlined in each case. Strategies used to achieve the assessment of key assumptions are summarizing, use of cross-fertilization skills, the deliberate use of meta-theories, and scientific juxtaposition.

Consideration of Assessment in Relation to Prospective Audience and Formulation of an Alternative Assumption Ground

Once such uniqueness has been identified it should be confronted with interpretations, current debate, and research frontiers in the recipient domain. According to Locke and Golden-Biddle (1997), such a communication strategy could be to create coherence (or lack of coherence) by placing topics in a problematized situation that is understandable in the other domain. In this process, a discursive competence, combined with a phenomenological understanding of the recipient domain, is crucial to be able to construct contributions viewed as interesting by the audience of the recipient domain (Davis, 1971). One useful rhetorical device could be the use of a *grabber* or *hook* to capture the reader's attention and indicate why a contribution is interesting, relevant, and important (Jacobsson & Hällgren, 2014). Central to such attempts is the ability to formulate an alternative (and interesting) assumption ground.

Bechky (2006, p. 4) explicitly formulated this alternative assumption ground in the introduction, writing, "... I propose that the portrayal of temporary organizations as ephemeral, unstable systems that require swift trust is inaccurate: In fact, these organizations are organized around enduring, structured role systems whose nuances are negotiated *in situ*. I find that what drives coordination in these temporary organizations and maintains continuity across projects is the negotiated reproduction of role structures—the mutual

reinforcement of the generalized role structure and repeated enactments of these roles on specific sets." In this statement Bechky not only points to the importance of understanding structured role systems for coordination theory, but also the contribution she makes to project studies by arguing for the excessive belief in the need for swift trust.

Strategies that can be used for assessing the relation to a prospective audience and formulation of an alternative assumption grounds are discursive competence; intertextual coherence (or incoherence); the use of grabbers; and various community-building efforts, such as conferences, joint research funding with research teams in different tribes or domains, and joint PhD courses, which create kinship and social connections among researchers (and reviewers).

Table 2 summarizes the suggested strategies and practices to use for each step. While the approach is applicable to a specific scientific contribution, the strategies and practices are developed, shaped, and reshaped over time. These strategies and practices are not only important for the individual researcher to outline contributions across different theoretical domains in a particular article, but they also have profound implications for how to design and manage a research environment, including research education.

Conclusions: Toward a Theory of Academic Escapology

Escapology—the art of escaping from constraints or other traps—involves illusion as well as actual skills. Like escapologists (or escape artists), researchers face a great variety of constraints and challenges, which necessitate different strategies and practices to enable researchers to break free. The historical trajectory, publication practices, quality assessment measures, and career paths are just a few examples of what today puts constraints on researchers and creates institutional pressure to produce boxed-in research (Alvesson & Sandberg, 2014). This pressure and these constraints promote exploitation of domain knowledge rather than exploration. Without entering the debate on all the long-term consequences of such practices, it is clear that this situation creates fragmentation and is neither good for science at large, nor does it encourage researchers to engage with other

Table 2. An Escape Artist's Manual

Steps	Intrinsic Approach	Strategies and Practices
#1	Identification of recipient domain	Non-protectionist mindset, an "in search of contribution" thinking, meta-theories as common heritage
#2	Articulation of specific key assumptions and characteristics of the recipient domain	Discursive competence, community building, and cross-fertilization
#3	Assessment of key assumptions in relation to the salient characteristics of project studies	Finding conceptual resemblance, utilizing meta-theories for common content, juxtaposition
#4	Consideration of assessment in relation to prospective audience and formulation of an alternative assumption ground	Discursive competence, phenomenology of science, structuring intertextual coherence, grabbers, community building

microtribes or domains. This is where this article contributes through its proposal of an *escape artist's manual*.

The outlined *escape manual* provides a path for project researchers to engage in exploration, rather than exploitation, and move beyond the home domain and contribute to other domains including more general management and organization studies. The approach builds on a combination of empirical observations (Bechky, 2006; Gersick, 1989; Jacobsson & Hällgren, 2016; Lindgren & Packendorff, 2006) and previously outlined strategies and practices (see, e.g., Alvesson et al., 2017; Davies et al., 2018; Davis, 1971; Kuura et al., 2014; Locke & Golden-Biddle, 1997), each serving its own purpose and providing support to break out of the existing project box. In doing this, we have illustrated how to develop project studies in order to be interesting beyond the microtribe of the project domain. By *interesting* we adhere to the conceptualization of Davis (1971, p. 342), who, at the end of his article, stated: "... I have asserted that all social theories which are found interesting involve a certain movement of the mind of the audience who finds them so." Of course, research contributions can be interesting for many different reasons, even though we have focused on box-breaking and *movement of the mind* connected to that kind of approach.

It should thus be noted that we do not claim that this is *the way*, but *one way* of breaking the boundaries of the existing domain to promote exploration. An alternative path forward is to inductively theorize some of the unique characteristics of projects and build a more general theory of project or temporary organizing from the inside out. As part of the contemporary knowledge base of project studies, there are several older (e.g., Engwall, 2003; Kreiner, 1995; Lundin & Söderholm, 1995) and more recent examples of this strategy (e.g., Jacobsson et al., 2016; Kenis et al., 2009; Söderlund & Sydow, 2019; Tukiainen & Granqvist, 2016), all of which expand the notion of projects in different ways. Increased theorizing based on the uniqueness of projects is clearly another way forward, even if such a path is not problem-free either. The future may lie in multiple approaches of how to move beyond the domain combined into a *theory of academic escapology*.

Finally, it is worth repeating that this approach is not only dependent on pure academic or scientific skills. There is also a more general community-building side of the coin, which we highlight in this article. The message we wish to convey is that social practices are a vital and important part of research contributions across (as well as within) different domains. In a wider perspective, this article carries important notions on how to organize and manage research organizations.

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The Challenges of Implementing Temporal Shifts in Temporary Organizations: Implications of a Situated Temporal View

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Abstract

We apply a situated temporal view to reveal the acute challenge actors face in making changes when their project moves toward its final deadline. A situated temporal view takes account not just of the dwindling time left to change the future but also the lingering past, the combination of which poses particular challenges to organizers. We discuss aspects of temporary organizing that make such temporal shifts challenging: the complex interplay between temporal structures and practices, multiple temporal orientations, and deferred timing of temporal shifts. We suggest ideas for further research to apply a situated temporal view to temporary organizing.

Keywords

temporary organization, project, time frame, shifts, situated temporality

Introduction

Temporary organizations, and projects in particular, share a common feature of having a limited, predefined time frame (Lundin & Söderholm, 1995). The idea of time frame stipulates the beginning and end (Halbesleben et al., 2003) of these organizations' existence, in which a final deadline often defines the ending. The fact of having a deadline influences how actors organize to produce the temporary organization's expected outputs (Janicik & Bartel, 2003; Jones & Lichtenstein, 2008; Lindkvist et al., 1998). In this essay, we discuss how the time-space compression created by temporary organizing poses particular challenges for organizers when they need to make changes during execution.

We suggest a situated temporal view of temporary organizations. A situated temporal view, as Hernes and Schultz (2020) suggest, attends to what Engwall (2003, p. 790) calls the "inner life" of the temporary organization. A situated temporal view applied to temporary organizations follows actors *in time* as they move from the beginning to the end of a project. The situated temporal view reflects the views of Bakker, DeFillippi et al. (2016) and implies following actors being in time as a project moves from beginning to end. Lundin and Söderholm (1995, p. 439) describe this very well as actors finding that "time is always running out" as the end approaches. Actors in the temporal flow of a lingering past and an ever-shortening future is an understudied phenomenon in the temporary organization literature (Jones & Lichtenstein, 2008). The situated temporal view invites analysis of how actors' changing

temporal orientations influence their emerging action patterns and the possibilities for making changes as deadlines approach. This view addresses the temporal structures, specifically the rhythm of action patterns that actors use to regulate activities. Consequently, a situated temporal view addresses both the effects of these structures on actors' practices and how these effects can change as actors move toward a deadline.

Although multiple types of change exist in temporary organizations, temporal shifts (Staudenmayer et al., 2002) are particularly important to study further not least because their timing is crucial for temporary organizations with predefined deadlines. Temporal shifts signify changes in temporal structures that can alter entrenched organizational rhythms. Because such changes occur in the flow of time and because actors in temporary organizations are forced to deliver by predefined deadlines, a temporal view is needed that accounts for how actors cope with the changing past and future as they move toward the deadline. Of particular interest is how actors in the present act on the changing relationship between the accumulated past and the remaining future. Our underlying assumption

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is that for changes to occur, actors must make them as concerted measures in the present.

Next, we briefly describe scholars' developing understanding of temporal issues in the field of project management and temporary organizing. Then, we introduce the situated temporal view and discuss its relationship with temporal structuring and temporal shifts in temporary organizations. Last, we review three aspects of temporary organizing that make temporal shifts challenging to those who manage such organizations: the complex interplay between temporal structures and practices, multiple temporal orientations, and deferred timing of temporal shifts.

Temporal Views in the Literature on Temporary Organizations

The mainstream literature on temporary organizations has tended to consider time as linear, homogenous, and controllable (Remington & Söderholm, 2010). In such a view, a project would "proceed like a train moving at high speed towards the end station without any unwanted stops" (Lundin & Söderholm, 1995, p. 448). Planning could then be considered a key mechanism to move the temporary organization "towards the formerly analyzed future" (Noss, 2002, p. 48), and sequential plans would be expected to impose control over time (Morris, 2010). Consequently, the role of project managers could be understood in terms of being an organizational metronome, that is, "a time-keeping mechanism which is designed to keep a number of diverse elements responsive to a central 'beat' or common rhythm" (Sayles & Chandler, 1971, p. 207).

Over the past decade, we have seen increasing interest in understanding how time, transience, and temporality affect temporary organizing (see, e.g., Bakker et al., 2016; Bakker, 2010; Burke & Morley, 2016; Dille & Söderlund, 2011; Dille et al., 2018; Janowicz-Panjaitan et al., 2009; Jones & Lichtenstein, 2008; Stjerne & Svejenova, 2016; Stjerne et al., 2019; Sydow et al., 2004; Tyssen et al., 2014). These contributions are important for exploring the temporal aspects of temporary organizing, but as Bakker, DeFillippi et al. (2016, p. 1707) note, scholars studying temporal aspects of temporary organizing have "made almost exclusive use of moderate process perspectives such as structuration or other types of practice-based theory." The authors suggest that one could advance understanding of temporal aspects of temporary organizations by taking stronger process views that build on process philosophies of time, such as the becoming perspective, represented by, for example, Tsoukas and Chia (2002) and Hernes (2014).

Temporary organizations offer particularly fertile ground for studying temporal views by virtue of two factors: multiple temporal orientations and predefined beginnings and ends. First, the time horizons of predetermined time frames shape the organizing and project dynamics (Bakker et al., 2013; Lindkvist et al., 1998). In addition, some time horizons are extended to include both past and future projects (Engwall, 2003), as studies by Bakker et al. (2016), Engwall (2003), and Stjerne and

Svejenova (2016) demonstrate. These researchers discuss how experience from previous projects influences not just people's actions in ongoing projects (Engwall, 2003; Stjerne & Svejenova, 2016) but also their actions regarding expectations of working in future projects (Bakker et al., 2016; Engwall, 2003; Swärd, 2016).

Second, because temporary organizations have predefined beginnings and ends (Lundin & Söderholm, 1995), actors operate within closed time horizons (Stjerne & Svejenova, 2016). As they move toward the deadline, they simultaneously experience lengthening of time spent on the project and a corresponding shortening of time remaining to make changes before the deadline. It is the very gnawing of the time spent on the project into the time left to make changes that makes temporal shifts so crucial and also challenging. Bergson (1922, p. 5), the eminent philosopher of time, formulated this as: "Duration is the continuous progress of the past which gnaws into the future and which swells as it advances." The phenomenon of the past gnawing into the future is not entirely new to scholars of temporary organizations. Gerald, Lee-Kelley et al. (2010) note, for example, that when actors spent too much time justifying the status quo in projects, they had less time to put the project back on track in the face of unexpected events. Similarly, Gerald and Adlbrecht (2007, Similalry, p. 35) point out that time is a relevant constraint in projects, stating, "There is not enough time to create and test many possibilities, and the longer it takes to make decisions, the higher the probability of missing the opportunity behind the decision." Thus, we face the challenge of developing theory on time in temporary organizations that takes explicitly into consideration the dynamics causing the need for change, which accumulate over time, and the corresponding shortening of time to solve the problems that have accumulated (Gersick, 1989). The special issue of *Project Management Journal®, Process Studies of Project Organizing*, published in the beginning of 2020, underlines this emphasis on the temporality of temporary organizations. The guest editors of this issue, Sergi et al. (2020), urge scholars of project management to study qualities that unfold in time as people in the process experience them. Such a view requires that rather than perceiving time as a mere background of clock-time against which actions are measured (Bluedorn, 2002), one emphasizes the passage of time in temporary organizing. This is what the situated temporal view allows us to do. It considers time a prime force in temporary organizing and offers a way to account for its passage as actors move toward the temporary organization's end.

A Situated Temporal View

Scholars have developed and applied a growing volume of temporal analysis in research areas such as sensemaking (Gephart et al., 2010; Wiebe, 2010), narratives (Cunliffe et al., 2004), identity (Schultz & Hernes, 2013), institutions (Rowell et al., 2017), organizations and environment (Slawinski & Bansal, 2012), change (Hernes & Pulk, 2019; Hussenot & Missonier,

2016; Reinecke & Ansari, 2015), history (Hatch & Schultz, 2017; Suddaby et al., 2010), and strategy (Kaplan & Orlowski, 2013; Schultz & Hernes, 2019). Works such as these have helped to shift the research focus from a time view to a temporal view of organizations. Scholars have distinguished views of temporality from time by focusing more on actors' subjective experiences of being in the flow of time (Hernes et al., 2020). Temporality scholarship has called for a situated view of time, well known from studies of practices in organizations. Situated views emerged in social science studies as ways to understand how activities are not just actions performed, but also structure the worlds of actors (Bourdieu, 1977). Orlowski and Yates (1998) refer to this as the "embodied, embedded and material aspects of human agency in constituting particular social orders" (p. 685). For instance, studies by Hutchins (1995) and Suchman (1987) have demonstrated how actors' practices connected iteratively to structure interaction and make it meaningful to actors. Situated views have helped to bridge the gap between agency and structure, and focus on the structuring features of social practices.

Orlowski and Yates (2002) developed situated views by theorizing how practices sustain and modify temporal structures, in other words, the organizational rhythms set by clocks or events. They argue that temporal structures, such as the pace and rhythm of activities, frame practices while being reflexively produced and reproduced by those same practices. However, they point out that temporal structures may not successfully shape practices among actors, who may choose alternative temporal structures rather than the formalized ones. In other words, temporal structures sometimes fail to determine actors' practices, just as practices fail to enact temporal structures. Whereas one might expect that in temporary organizations actors adhere to a change in temporal structure as they move toward a deadline, studies show that actors sometimes do not adhere to shifts in temporal structures, which becomes particularly acute in temporary organizations. Lifshitz Assaf et al.'s (2018) study of makeathons, which are temporary organizations with extreme temporal conditions, found that when participants faced high levels of ambiguity, they resorted to "breaking" with ongoing temporal structures. In their case, participants spontaneously created new temporal structures for the remainder of the project duration. Extending the notion of reflexive dynamics between practices and temporal structures discussed by Orlowski and Yates (1998), Hernes and Schultz (2020) argue that while practices may uphold temporal structures, actors may also look beyond those structures to address more distant events. By doing this, they may be able to question and transform the temporal structures that frame their activity. Hernes and Schultz call this a *situated temporal view*, which helps explain how actors in the present reinterpret the more distant past while anticipating the more distant future (Hernes, 2014). Such a view implies following actors as they move through time and helps in understanding the dynamics of temporal shifts in situations of the accumulated past gnawing into a dwindling future.

A situated temporal view contributes to the literature on temporary organizations in at least two ways. First, this view focuses on the effects of actors' strong sense of the passage of time (Hernes, 2014) by aligning the view with the idea of temporal flow in projects (Jones & Lichtenstein, 2008) in terms of actors experiencing a lingering past combined with a dwindling future. Temporal views of permanent organizations do not reflect this situation given that change processes may occur over longer and more open-ended time spans. In temporary organizations, however, the timing and duration of change are vital. This is particularly important in projects, in which actors often perceive the passage of time as rapid (van Berkel et al., 2016), with a quickly diminishing future (Gersick, 1989) with a non-negotiable deadline. Second, a situated temporal view focuses on how actors in the present reinterpret the past and anticipate the changing future (Hernes, 2014; Kaplan & Orlowski, 2013; Schultz & Hernes, 2013). When applied to temporary organizations, this view invites reflection on the past and future that actors address and that affects how they act in the present (Bakker & Janowicz-Panjaitan, 2009). Following, we discuss how actors may address the past or future differently as part of how they implement temporal shifts; we also discuss how, under certain conditions, actors may resort to temporal decoupling (Dille et al., 2019) to maintain past structures or opt out of collectively negotiated structures for the remainder of the temporary organization.

Hernes and Schultz's (2020) definition of a situated temporal view as following actors as they move through time, we assume that the ways that actors enact their past or future influence their present, ongoing practices. In other words, *how* actors look into the past or future and *how far* they look become especially important during times of change when the consequences of choices are unknown. As noted, compared with more permanent organizations, the relationship between past and future changes rapidly in temporary organizations. This makes the present, past, and future dynamics particularly critical.

We noted earlier that most situated views, as conducted by Orlowski and Yates (1998), assume a reflexive relationship between practices and temporal structures. However, empirical studies (e.g., Schultz & Hernes, 2013) have shown that crises, changes, or uncertainty about the future sometimes trigger a wider search into the past or future. Searches into the past may, for example, include turning to temporal structures used previously, in which case actors consider a more distant past than that marked by the beginning of the temporary organization in which they find themselves at present. For instance, in the case of projects, Engwall (2003, p. 803) observes that, whereas some procedures may be applied for the first time, others may be invoked from the past. Taking a situated temporal view assumes that, in conditions of change or uncertainty, actors search for events and experiences while they cope with ongoing temporal structures. Hence, the view reveals tensions between continuing to work within existing temporal structures and searching in the past and future for reasons to adhere to

temporal structure changes. Again, research shows that actors may reach back and forth within existing temporary organizations, or they may alternatively reach back to experience or events beyond the time horizons of the temporary organization.

The Challenges of Making Temporal Shifts in Temporary Organizations

The conditions under which actors attempt and accomplish change in temporary organizations is an important question. The situated view enables understanding of at least three central aspects that make temporal shifts challenging to those who manage temporary organizations: the complex interplay between temporal structures and practices, multiple temporal orientations, and deferred timing of temporal shifts. These three challenges have emerged from the literature on managing or coping with change in temporary organizations.

Complex Interplay Between Temporal Structures and Practices

Temporal structures, such as milestones and deadlines, are important for managing pace, sequencing activities in advance, and initiating collaboration in temporary organizations. Enacting temporal structures, actors can “perform” time (Ballard & Seibold, 2003), as temporal structures enable them to make sense of, regulate, synchronize, and account for activities (Bakker, 2010). Temporal structures are particularly important for planning and coordinating among the members of temporary organizations (Janicik & Bartel, 2003; Jones & Lichtenstein, 2008), and research has indicated that the choice of temporal structure for coordinating depends on the length of a project’s stipulated time frame. The longer the project lasts, the less the coordination tends to be chronological. Rather, in projects of longer duration, actors often resort to event-based measures such as milestones (Jones & Lichtenstein, 2008).

As temporary organizations by definition have final deadlines, deadlines and milestones have received particular attention in studies of temporary organizing; for example, scholars have argued that deadlines and milestones potentially increase the pace of work and, thus, enable project execution within time frames perceived as relatively short (Eisenhardt & Tabrizi, 1995). Deadlines are important not only for pacing (Eisenhardt & Tabrizi, 1995) and sequencing of activities (Jones & Lichtenstein, 2008) but also for breaking out of current action trajectories, since deadlines can signal when it is time to move on (Gersick, 1989). Scholars have demonstrated that anticipated deadlines shape actors’ approaches and interactions, for example in creative projects (Bakker et al., 2013), and can even trigger radical changes to project processes, including altering both a system’s specific composition and the rules governing the system (Gersick, 1989). This occurs because deadlines provide “glimpses of light” in which project participants reflect on how they are working (Lindkvist et al., 1998, p. 947). In other words, deadlines can induce actors in projects to reflect and to

think holistically. As Lindkvist et al. (1998) point out (in terms used by March & Olsen, 1995), milestones can prompt the logic of consequentiality rather than the logic of appropriateness. In the view of Lindkvist et al. (1998), neither time nor the development paths of project work are a smooth trajectory of incremental adjustments or involve a feeling of gradual progression. Rather, they can mean revolutionary episodes of turnaround, sometimes in the face of unexpected events (Geraldi et al., 2010). An early contribution toward a more processual understanding of project organizing is Engwall and Westling’s contribution from 2004, which underlines the importance of including time and evolution to understand the process dynamics of projects. They explain how R&D projects, after having suffered from limited progress in a technology development, can endure moments of sudden change, or what they call “peripety.”

By studying temporal patterns such as sequencing, pacing, and duration (Ancona & Chong, 1999; Gersick, 1988, 1989; Orlikowski & Yates, 2002), scholars have shown how such patterns influence temporary organizations’ ability to transform themselves when time is running out. For instance, Bechky and Okhuysen (2011) demonstrated how shared expectations of temporal workflow enabled teams to reorganize in the face of unexpected events. If the attempt is to change temporal structures that actors have practiced before and with which they associate positively (Engwall, 2003), introducing such temporal structures will more likely lead to the desired change, which in turn increases the likelihood of delivering results on time. Conversely, if the change involves a relatively unfamiliar temporal structure or one with which actors associate negatively, they will more likely resort to temporal decoupling (Dille et al., 2019). Temporal decoupling means that they practice alternative temporal structures for the remainder of the project. Dille et al. (2019) showed how temporal decoupling ensued in a multistakeholder project when one stakeholder could not comply with the temporal structuring designed for the remainder of the project.

This brief outline indicates scholars’ increasing awareness of temporal structures as shapers of temporary organizing. While temporal structures do not determine action, they serve as resources for action, coming alive as actors enact them (Weick, 1998). Enactment of structures will vary across the ever-changing present, sometimes due to variations in actors’ temporal orientations. To avoid delays, temporary organizations can change practices by changing temporal structures, which in turn can lead to smoother execution and increased pace. The notion of midpoint transitions (Gersick, 1989) is a well-known conceptualization of the relationship between shifts in temporal structure and changes in practices, referring to the point at which project team members recognize that if they do not alter their course of action, they will be unable to accomplish expected deliverables by the final deadline.

Multiple Temporal Orientations

Many temporary organizations are formed because they are expected to solve open-ended and complex problems that require both goal orientation and creativity. The staff tend to come from different backgrounds, represent different stakeholders, or both. This means that unexpected developments may increase, conflicts arise (Engwall, 2003), and delays occur, all of which require change if timely delivery is to be achieved. However, ability to change present actions is highly contingent on previous, simultaneous, and anticipated future courses of action, and studies of project management (Engwall, 2003) have often not fully captured this complexity. A key explanation lies in the nature of establishing temporary organizations, in stipulating a time frame for their beginning and end, a bracketing off of pasts and futures beyond this time frame, which in turn creates strong focus on the present (Bakker & Janowicz-Panjaitan, 2009). This is, as Bakker and Janowicz-Panjaitan (2009) note, a temporalization of the temporariness, not just creating time horizons but also shaping the very experience of moving forward in time (Bakker & Janowicz-Panjaitan, 2009).

However, actors' ability to change practices in response to changes in temporal structures varies with the extent to which they are oriented toward the present, past, or future. Of particular significance is the temporal distances into the past and future they consider (Bluedorn, 2002, p. 114). In this view, actors' temporal orientations in temporary organizations will evolve along with their experience of moving forward in time as they approach the stipulated end, which in turn will influence how they organize to implement the temporal shifts. For example, Axelrod (1981, 1984/2006), using the prisoner's dilemma to understand the circumstances of collaborative behavior, offered early insights on the relationship between the anticipated length of future collaboration and action patterns. Coining the expression "shadow of the future," Axelrod (1984, p. 124) argued that the longer the shadow of the future, the more actors are willing to make changes in how they work together, because they can rely on longer temporal orientations for rewarding or punishing one another.

Tensions arising from members' different temporal orientations often require management to resolve them (Stjerne et al., 2019). One way to address these tensions is to combine temporal orientations through the way one frames activities, even if it means bringing future tasks into the present or vice versa (Stjerne et al., 2019). When temporalities are incongruent, actors can establish temporal shifts if they recognize that these shifts are both the source of and the solution to the problem (Reinecke & Ansari, 2015). However, their temporal orientation, in particular, the extent to which they are future oriented, shapes their motivation for temporal shifts. Actors who can visualize distant futures tend to display more flexibility in actions, compared to those oriented toward the past (Howard-Grenville, 2005). Temporal studies indicate that actors in projects bring in "shadows" of both the past and future in their temporary organizing. One example is Stjerne and Svejenova's (2016) demonstration of how actors use examples of successful

collaborations in past projects to trigger funding for future projects. Maniak and Midler's (2014) conception of multiproject lineage management, which extends the temporal perspective to explain how innovation trajectories emerge in the automobile sector, also exemplifies a more complex approach to temporalities in the context of projects. Taking a situated temporal view enables further exploration of how temporal structures shape temporary organizing, including actors' ability to make temporal shifts (Gersick, 1988; Lindkvist et al., 1998; Staudenmayer et al., 2002). This view also allows us to explore how actors construct and invoke temporal structures and how these structures evolve along with actors' experience of moving through time. In sum, this might help future studies further reveal the complexity inherent in implementing desired changes in temporary organizations.

Deferred Timing of Temporal Shifts

As noted earlier, actors tend to realize the need for change relatively late in the duration of projects, which makes change more difficult, in part because the time spent on the project produces accumulated habits and expectations, routines for how the work is performed (Bygballe et al., 2018; Feldman & Pentland, 2003). Change also becomes difficult because the time left for changing the accumulated momentum becomes correspondingly shorter. Others have pointed out that actors' perception of a duration produces certain organizational dynamics that affect actors' ability to reorganize work processes (Gersick, 1989), their choice of coordination measures (Jones & Lichtenstein, 2008), or their information-processing strategies in projects (Bakker et al., 2013). Observing project teams, Gersick (1989, p. 304) found that time structuring could produce motivational obstacles to change efforts: "The current evidence suggests that if a milestone passes without the occurrence of enough perceived progress, a team will experience the passing as a failure, and their shared sense of opportunity will probably be lost until the next temporal milestone." Hence, the time structuring that activates the motivational barriers in the first place hinders the motivation needed to alter the very same time structuring; in other words, it is a variant of the bootstrapping problem (Weick & Quinn, 1999). This means that when actors in temporary organizations find themselves in this situation, they will tend to maintain actions and tools they have used up to that point (Dille et al., 2019).

As temporary organizations move from beginning to end, the combination of enduring practices from the past and a corresponding shortening future to change those practices makes the timing of temporal shifts crucial. If we assume that accumulated experience with temporal structuring guides practices, we can anticipate different effects of actors' attempts to change. In this case, actors may be less likely to search their more distant past for experience and may instead focus on the recent buildup of events that they see as having led to the problems they currently face. Because the time left for making changes dwindles rapidly, actors may need to negotiate more fundamental changes, such as redefining the output of their collaboration, as

Engwall and Westling (2004) suggested. In that case, the future projection of the deadline comes into play. In large multi-stakeholder projects, deadlines are more rigid than in more loosely defined temporary organizations, making change more crucial. When deadlines are more fluid, on the other hand, actors may envisage renegotiation of the deadline in order to gain more time to reorient their practices toward the changed temporal structures.

Temporal shifts often involve not just the temporary organization's temporal structures but also those of other stakeholders. Dille et al. (2019) showed how management in a temporary organization attempted to shift the stakeholders' temporal structures by resorting to more instructive use of sequencing late in the process. Sequencing is a means used widely in many kinds of projects (Engwall, 2003). However, attempting to introduce a temporal shift in stakeholders' practices by working within the organization's existing temporal structures may lead to conflict and loss of control over time. The problems accumulated since the project's beginning may be too extensive relative to the time available for actors to make the necessary changes.

The timing of temporal shifts may have critical effects on the dynamics of temporary organizations, especially if actors introduce new temporal structures late in the process and the attempted changes do not correspond to stakeholders' perceptions and experiences of the temporal structures. The relatively rapid pace of temporary organizations, coupled with the standardized repertoire of project management measures, make the timing of temporal shifts challenging, especially in conditions of fixed and non-negotiable deadlines. The repertoire on which a temporary organization relies tends to become limited when time pressure is high and little time remains to make necessary changes, which means that temporal shifts are, by definition, deferred in temporary organizations. In such situations, the temporary organization will more likely resort to existing procedures than changing them. Sydow, Schreyögg et al. (2009) suggest a three-stage process through which dependency on accumulated procedure gradually emerges. However, as they note, contextual conditions can support or hinder the unfolding, self-reinforcing processes, but the situational aspects of emerging dependencies on accumulated procedures require further research. The situated view reveals actors' capacity to make temporal shifts, thereby clarifying temporary organizations' ability, or lack thereof, to change their trajectories.

Conclusion and Further Research

The literature on temporary organizations confirms not only their widespread existence and importance but also their unpredictability and high failure rates. Missing from the current literature is the question of how actors in temporary organizations may effect change as they move from the beginning to the end of projects. As pointed out earlier, a crucial factor is that the time in which problems develop becomes longer and the time available to solve these problems becomes

shorter. Working from a situated temporal view, we can better understand this temporal aspect of temporary organizations through the lens of the project's inner life (Engwall, 2003). We contribute to this work by discussing how the relationship between time spent and time remaining continuously changes, making temporal shifts increasingly challenging as deadlines approach.

Further research might pursue a situated temporal view to investigate the effects of different temporal experiences among actors and how those differences play out, create, settle, or reconcile conflicts during the temporary organization. The situated perspective enables understanding of how actors' temporal orientations change over a project's life cycle and how their temporal orientations affect their ability to change the temporal structuring of activities. It would be of interest to explore this relationship across variable empirical contexts, for example, the relative time frame of the project (relatively short or long), the relative pace of the project (high-low), and how different strategies for project execution (such as sequential versus iterative approach) affect this relationship. We based our discussions of this relationship and the complexities of temporal structures on the perception of an inflexible deadline. It would be interesting to explore this focal relationship in terms of more flexible deadlines. We have brought attention to this aspect, but we have not examined how varying degrees of negotiability regarding deadlines affect organizing. Consequently, we recommend further research on situations in which actors negotiate temporal challenges to understand better the nature and impact of different temporal orientations among actors.

We particularly urge future studies to focus on the relationship between change and continuity in temporary organizations. Whereas we have focused on change, a fuller analysis would account for the role of continuity amid change. For example, projects often progress at a different pace and direction than those initially planned (Flyvbjerg, 2011). A widespread response to this situation is to try to bring the project back on track. However, how can project team members evoke a future different from what their present situation indicates? As demonstrated by Dille et al. (2019), when delays accumulate, actors find that they need to depart significantly from the accumulated past (the initial part of the project), while simultaneously ensuring some continuity from that same past. Lastly, what are the effects of different types of temporal structures? In practice, actors often establish time horizons in the beginning of temporary organizations, but time horizons may not be sufficiently compelling to ensure sufficient progress. A worthwhile question involves the effects of introducing stricter temporal structures that deviate significantly from those used at the beginning and the effects of the timing of the change in temporal structures. According to a situated temporal view, the introduction of radically new temporal structures may not work unless actors recognize that there is time to adjust to those new temporal structures.

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Assessing the Vulnerability of Megaprojects Using Complex Network Theory

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Abstract

This article examines the vulnerability of megaprojects using complex network theory. The megaproject is first abstracted as a weighted directed network, after which a novel vulnerability metric is designed to quantify megaproject vulnerability. The proposed approach is then applied to a megaproject, which demonstrates its effectiveness in assessing vulnerability and identifying critical projects. Several protection strategies are finally proposed to enhance megaproject management. Overall, this study proposes a quantitative method to assess megaproject vulnerability that can reduce vulnerability and assist in the development of proactive risk approaches to ensure successful megaproject completion.

Keywords

vulnerability assessment, megaprojects, complex network theory, proactive risk management

Introduction

Rapid global urbanization has led to an increased demand for large infrastructure systems; thus, a wide range of megaprojects has appeared worldwide (Flyvbjerg et al., 2003), such as the Channel Tunnel in Europe, the Maglev train in Germany, the Three Gorges Dam in China, and the Oresund Bridge between Denmark and Sweden. Megaprojects are highly complex and uncertain, have significant social and economic impacts, and typically cost over US\$1 billion, much of which is usually provided by local/national governments (Chapman, 2016; Flyvbjerg, 2014). Consequently, megaproject failure can lead to the failure of a company and/or the fall of a government (Merrow et al., 1988). Because of their size and complexity, there are many factors that can adversely affect successful megaproject completion. Therefore, to ensure smooth megaproject implementation, previous research has focused on issues associated with cost overruns (Olaniran et al., 2015), scheduling delays (Han et al., 2009), stakeholder management (Williams et al., 2015), and risk management (Boateng et al., 2015).

Vulnerability analyses provide powerful tools for proactive risk and crisis management (Johansson & Hassel, 2010), with some studies having suggested that these analyses should be integrated into the project management process (Vidal & Marle, 2012; Zhang, 2007). However, while there have been some recent studies that have focused on project vulnerability (Deng et al., 2014; Fidan et al., 2011; Vidal & Marle, 2012), there have been few studies on megaproject vulnerability. With a rise in the number of megaprojects and the growing uncertainty in

modern society, effective assessment of megaproject vulnerability is increasingly vital to enhance the operational efficiency and improve the construction process. To address this research gap, this article investigates megaproject vulnerability using complex network theory. Based on the topological structure and the specific features, the megaproject is first abstracted as a weighted directed network. To measure megaproject vulnerability, a novel vulnerability metric is proposed and an experiment is conducted to demonstrate its effectiveness. Subsequently, several protection strategies are proposed to enhance overall megaproject management. This study provides a basis for emergency response preparations, gives deeper insights into the methods that can be used to protect megaprojects, and offers ways to improve megaproject performance.

The main contributions of this article are as follows. First, this article lays the groundwork for the evaluation of megaproject vulnerability by developing a novel approach based on complex network theory. This quantitative approach could assist managers in quantifying megaproject vulnerability, predicting the impact of a task failure, and identifying the projects that are most critical to the functioning of the megaproject. Thus, our approach promises to complement the three main

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techniques currently in use to measure project vulnerability: historical data on similar projects, expert judgments, and on-the-spot investigation. Second, this study can aid overall megaproject management. Several protective countermeasures are also suggested to improve megaproject management. That is, through the evaluation of megaproject vulnerability, not only can researchers better understand and predict the impact of megaproject failures, but managers can also better identify vulnerabilities, respond to the possible losses, develop effective maintenance plans, and enhance their capacity to handle potential risks.

The remainder of this article is organized as follows: The next section reviews the literature on vulnerability and vulnerability assessment methods, and briefly introduces complex network theory in project management. After that, we abstract the megaproject as a weighted directed network, review the structural properties of the megaproject network, and propose associated megaproject vulnerability assessment models. Then, we apply the proposed method to a megaproject to assess the vulnerability. We provide insights on the managerial implications, existing limitations, and possible future work, before summarizing the research conclusions in the final section.

Literature Review

For a systematic introduction to the research topic and the vulnerability assessment approach to be used in our study, three main research areas were explored: existing vulnerability and project vulnerability studies, principal vulnerability assessment techniques, and a brief introduction to complex network theory to explain how network analytical techniques have been applied to project management.

Vulnerability

“Vulnerability” has been frequently confused with “risk” (Ezell, 2007), however risk involves the interactions between potential threats, and vulnerability generally focuses on possible consequences (Fidan et al., 2011; Vidal & Marle, 2012). Vulnerability is the inherent weaknesses in a system (Dikmen et al., 2008; Haimes, 2006) and is related to the system’s susceptibility to a risk event (Zhang, 2007). In other words, system vulnerability may lessen the capability of a system to withstand a threat, to sustain its intended function, or to fulfill its objectives (Murray & Grubescic, 2007). Vulnerability has been examined in many different fields, such as sustainability studies (Turner et al., 2003); the protection of critical infrastructure, such as power grids (Albert et al., 2004); fiber networks (Neumayer et al., 2011); and transportation networks (Kermanshah & Derrible, 2016).

Project vulnerability analyses can highlight the project inborn weaknesses and complement proactive risk management approaches (Vidal & Marle, 2012; Zhang, 2007). More recent studies have focused on project vulnerability. For example, Fidan et al. (2011) suggested that project vulnerability should be accounted for during risk modeling and developed an

integrated risk and vulnerability assessment approach to quantify cost overruns in construction projects. Vidal and Marle (2012) also believed that studying project vulnerability could allow managers to concentrate on the inherent weaknesses, which could greatly assist in project risk management. Deng et al. (2014) explored how the international project is vulnerable to political risks and concluded that vulnerability management needed to be integrated into the risk management process to mitigate such political problems. However, these studies only considered the vulnerability of the individual project, and there has been a paucity of studies on the vulnerability of megaprojects.

Vulnerability Assessment Methods

Vulnerability has been quantified using various mathematical modeling methods: multicriteria decision-making techniques, such as the weighted sum method, the technique for order preference by similarity to ideal situation (TOPSIS), fuzzy decision-making approaches (e.g., Aleksić et al., 2014; Islam et al., 2017; Jun et al., 2013; Kuo & Lu, 2013), and complex network theory (e.g., Albert et al., 2004; Arianos et al., 2009; Bompard et al., 2011; Deng et al., 2015).

Multicriteria decision-making techniques are able to quantify system vulnerability from the vulnerability sources: exposure, sensitivity, and adaptive capacity (Aleksić et al., 2014; Jun et al., 2013). Using vulnerability indicators to symbolize vulnerability sources, vulnerability can be assessed by ranking indicator values. For example, as most real-world systems contain both quantitative and qualitative data, Aleksić et al. (2014) developed a fuzzy model to assess organization vulnerability so as to enhance the organizational business performance. To strengthen project risk management, Kuo and Lu (2013) quantified the impact of vulnerability factors on projects using the fuzzy decision-making approach. Islam et al. (2017) claimed that combining TOPSIS with fuzzy can provide the weights of evaluation criteria based on expert judgment and thus can better quantify risk and identify vulnerabilities.

Systems are made up of components, some of which play a vital role in systems operations and functional systems (Bompard et al., 2011; Zhang et al., 2016). And system vulnerability can be quantified as the maximum vulnerability of all its components (Arianos et al., 2009; Latora & Marchiori, 2005). As there is a close link between topological structure and physical behavior, complex network theory is applied to evaluate system vulnerability and identify the critical components. For example, Arianos et al. (2009) developed a network metric to calculate the impact of line outages on power grid performance to identify the most vulnerable lines. Bompard et al. (2011) used an extended topological approach, which coupled the network metrics with the power grid engineering features, to quantify power system vulnerability and identify the critical components, and Deng et al. (2015) built a new framework to study subway vulnerability based on complex network theory and the Failure Mode, Effects, and Criticality Analysis

(FMECA) method so as to distinguish the critical functional modules in the subway system.

Therefore, multicriteria decision-making techniques and network theory techniques can be used to facilitate system vulnerability analysis from different perspectives; that is, multicriteria decision-making techniques focus on assessing the system vulnerability from the sources of vulnerability, and network analysis focuses on the structure of the system. Megaprojects are intrinsically networked systems that are made up of a collection of sequential or concurrent components; therefore, any component failures can impact the connectivity level of the entire megaproject and result in major problems. To identify the most vulnerable components in a megaproject, this article quantifies the megaproject vulnerability using complex network theory.

Complex Network Theory in Project Management

Complex network theory, which originated from graph theory, can expose the hidden laws behind complex systems from a structural global point of view (Boccaletti et al., 2006), and has been successfully applied to many economic, technological, and social systems. It has also been used to explore the issues in projects. For example, Kastelle and Steen (2010) used network analysis to investigate the influence of a project-based firm's communication network structure on its innovative capability. Ellinas et al. (2016) adopted network science to explore the susceptibility of a project to systemic risk, and Pryke et al. (2018) used complex network theory to explore the organizational complexity of large infrastructure projects to assist project managers in optimizing their team structures. Complex network theory has therefore proven to be a powerful systems engineering tool for solving project problems. Moreover, several researchers suggested that the network theory approach should be more widely adopted in the project management domain (Ellinas et al., 2016; Kastelle & Steen, 2010; Kratzer et al., 2010; Locatelli et al., 2014; Pryke et al., 2018).

Megaproject Vulnerability Assessment Model

Based on an in-depth analysis of the structural properties of megaprojects, the megaproject is abstracted as a weighted directed network, after which vulnerability assessment models are proposed.

The Megaproject as a Network

Network-Based Megaproject Description. A mega project refers to a program that contains multiple closely connected projects (Flyvbjerg, 2014; Hu et al., 2015; Li et al., 2018; Lycett et al., 2004; Martinsuo & Hoverfält, 2018; Pellegrinelli, 1997; Rijke et al., 2014; Turkulainen et al., 2015; Turner, 2014). The multiple projects in programs run in parallel or sequential order (Lycett et al., 2004; Maylor et al., 2006); there are three main types of organizational structure: a chain (one project after another), a portfolio (all projects taking place

at one point), or a network (interlinked projects) (Maylor et al., 2006). This article focuses on a megaproject that has many interlinked projects within a network structure.

To build a suitable megaproject network, the network model properties must be in line with the structure of real-world megaprojects. An individual project within the megaproject is a set of tasks that generally run sequentially or concurrently. Workflow of projects usually travels along links from predecessor tasks to successor tasks; that is, only when the predecessor tasks are completed can the successor tasks commence. To capture the topological structure of an individual project, the project is constructed as a directed network with a set of nodes representing the tasks and a set of directed links representing the relationships and the sequential order between the tasks. The project interdependencies actually occur between the tasks and are also expressed by directed links to represent the relationship dependencies. Therefore, the megaproject network can be represented as $G = (V, E)$, in which task i is abstracted as node i (n_i), the dependence from n_i to n_j corresponds to a directed link e_{ij} , $V = (n_1, n_2, \dots, n_N)$ is the node set, E is the link set, and N is the total number of nodes in the megaproject network.

As tasks that take longer tend to have a much greater impact than shorter tasks (Ellinas et al., 2015, 2016), it is assumed that the node weight (w_i) is related to the task duration (t_i). As some links have stronger connections than others, the links connected to the nodes with greater weight tend to have a more significant influence than links connected to the nodes with smaller weights. A weighted adjacency matrix W , therefore, is constructed to express the link weights, where $W = [w_{ij}]$ is an $N \times N$ asymmetric matrix. From Park et al. (2004), the link weight (w_{ij}) can be assumed to be:

$$w_{ij} = \begin{cases} (w_i + w_j)/2, & \text{if } n_i \text{ directly connects to } n_j \\ 0, & \text{otherwise} \end{cases} \quad (1)$$

where $w_i = t_i$ and $w_j = t_j$. These specific megaproject features indicate the megaprojects are intrinsically weighted directed networks.

Communities Within the Megaproject Network.

Community structures exist in most complex networks (Newman, 2006). A community is a network structure comprised of a group of nodes that are "comparatively tightly linked to each other but sparsely connected to other dense groups in the network" (Newman & Girvan, 2004, p. 1), as shown in Figure 1. Detecting the community structures in the network is vital for network comprehension and supervision.

Megaprojects are a group of related projects that together achieve a higher order goal (Lycett et al., 2004; Martinsuo & Hoverfält, 2018; Turner, 2014); the individual projects might have the same specific function within the megaproject. The internal dependencies between the tasks in each project are

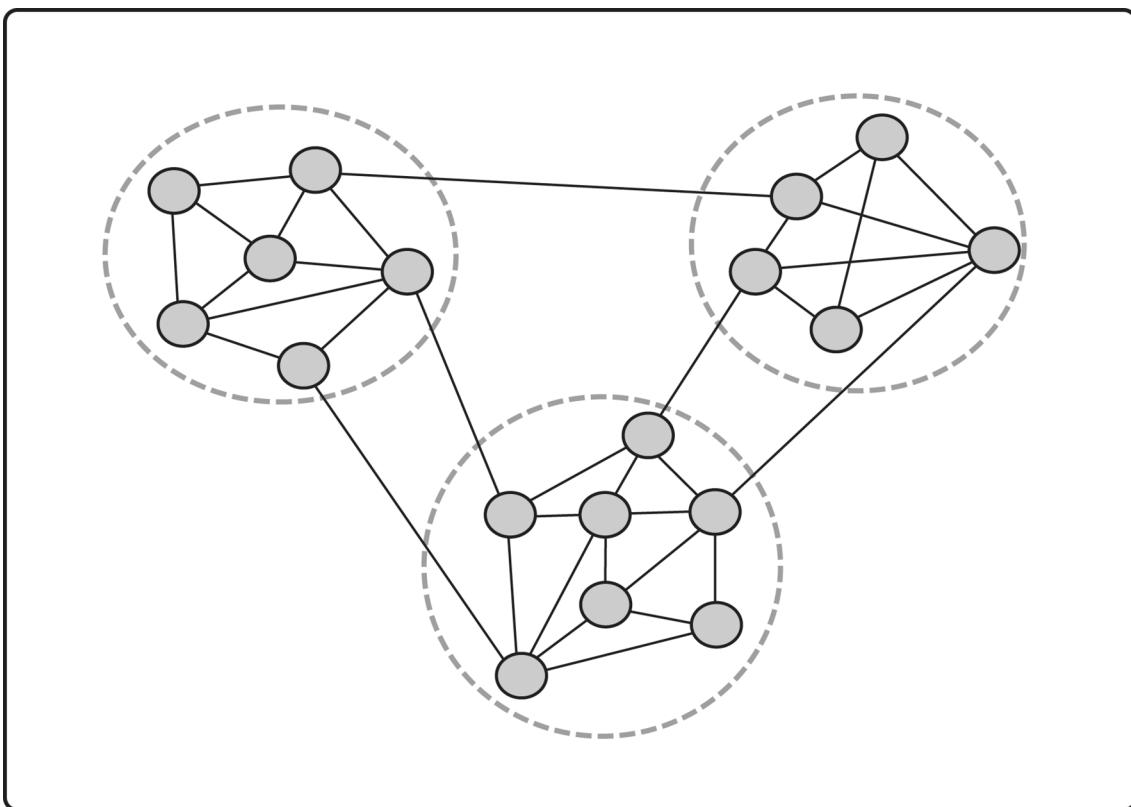


Figure 1. A network with three communities.

denser than the interdependencies between each project; that is, tasks in the same project are densely connected to each other but sparsely connected to the tasks in the other individual projects. Therefore, communities in a megaproject network might represent related tasks on a single topic, that is, each individual project could be seen to correspond to a community within the megaproject network.

To measure how well a given network partition compartmentalizes its communities, Newman and Girvan (2004) proposed a quality function: modularity. Modularity has been found to be a good indicator of functional network divisions in many cases (Newman, 2006). From Leicht and Newman (2008) and Newman (2004), the modularity Q for a weighted directed network is:

$$Q = \frac{1}{m} \sum_{ij} \left[w_{ij} - \frac{k_i^{\text{out}} k_j^{\text{in}}}{m} \right] \delta_{ij} \quad (2)$$

where m is the total weight of the links, $k_i^{\text{out}} = \sum_{j=1}^N w_{ij}$, $k_j^{\text{in}} = \sum_{i=1}^N w_{ij}$, and $k_i = k_i^{\text{out}} + k_i^{\text{in}}$, where k_i^{out} denotes the out-degree of n_i , k_j^{in} denotes the in-degree of n_j , k_i denotes the degree of n_i , function $\delta_{ij} = 1$ if n_i and n_j are in the same community and $\delta_{ij} = 0$ otherwise. The value of $Q \geq 0.3$ indicates significant community structure in a network, and values

approaching $Q = 1$ correspond to a good division of a network into communities (Newman & Girvan, 2004; Newman, 2006).

Vulnerability Assessment Models

System vulnerability can be defined as the maximum vulnerability of all its components (Arianos et al., 2009; Latora & Marchiori, 2005). Therefore, megaproject vulnerability can be defined as the maximum vulnerability of all its individual projects. As the inner structure and outer connectivity of an individual project affect project vulnerability, in this article, the community vulnerability metrics are first extended to evaluate the vulnerability of a project to other projects (“outer” vulnerability); network efficiency variations are adapted to assess the internal state of the project (“inner” vulnerability); and then both the internal and external connectivity characteristics are incorporated to calculate the overall project vulnerability.

Community vulnerability assessment focuses on the connectivity “degree” of one community to the other communities. Rocco S. and Ramirez-Marquez (2011) proposed community vulnerability metrics to assess community vulnerability in undirected and unweighted networks, which, in this article, are extended to the megaproject network to assess a project’s “outer” vulnerability. Let c_z , $z = 1, 2, \dots, n$ represent the z th project in a

megaproject network, with $c_l \cap c_m = \emptyset \forall l \neq m$. First, a vulnerability set and value for each project in a megaproject network are defined.

The vulnerability set from c_z to c_y is defined as:

$$V_{zy}^c = \left\{ (s, t) , s \in c_z, t \in c_y | if w_{st} \neq 0, p_{st} \neq \emptyset \forall s \in c_z, t \in c_y \right\} .$$

As the vulnerability set V_{zy}^c contains all links, when disconnected, there is no direct communication from c_z to c_y . The vulnerability set from c_y to c_z is defined as:

$$V_{yz}^c = \left\{ (t, s) , s \in c_z, t \in c_y | if w_{ts} \neq 0, p_{ts} \neq \emptyset \forall s \in c_z, t \in c_y \right\} ,$$

when all links are disconnected, there is no direct communication from c_y to c_z . The path set from task s to task t is described as p_{st} , and the path set from task t to task s is described as p_{ts} , $s \in c_z$, and $t \in c_y$. The vulnerability set for c_z is:

$$V_z^c = \bigcup_y V_{zy}^c \bigcup \left(\bigcup_y V_{yz}^c \right) ,$$

when all links are disjointed, c_z and the rest of $G = (V, E)$ detach. Therefore, the vulnerability between c_z and c_y can be defined as:

$$v_{zy}^c = \frac{1}{\sum r_{st} + \sum r_{ts}} \quad \forall V_{zy}^c \bigcup V_{yz}^c \neq \emptyset \quad (3)$$

where $r_{st} = \frac{w_{st}}{w}$, and $r_{ts} = \frac{w_{ts}}{w}$, w_{st} are the weights of the links in the vulnerability set V_{zy}^c , w_{ts} is the weight of links of the vulnerability set V_{yz}^c , and w is the minimum weight in all the vulnerability set. Moreover, the vulnerability between c_z and other parts of the megaproject network can be defined as:

$$v_z^c = \frac{1}{\sum r_{st} + \sum r_{ts} + \dots + \sum r_{sq} + \sum r_{qs}} \quad \forall V_z^c \neq \emptyset \quad (4)$$

where w_{st} , w_{ts} , ..., w_{sq} , and w_{qs} are the weights of the links in the vulnerability set V_z^c , $r_{sq} = \frac{w_{sq}}{w}$, $r_{qs} = \frac{w_{qs}}{w}$.

As the internal state of the individual projects within a megaproject can severely impact normal operations, each project's "inner" vulnerability must be accounted for when assessing overall megaproject vulnerability. Vulnerabilities within systems are independent of exogenous disturbances, thus they can be usually identified by exploring the consequences of internal component failures (Albert et al., 2004; Arianos et al., 2009; Kermanshah & Derrible, 2016; Neumayer et al., 2011). Therefore, the project vulnerabilities are identified by examining the consequences of task failures. From Latora and Marchiori (2005) and Arianos et al. (2009), the vulnerability of c_z (v_z^D) can be defined as the biggest percentage drop in network efficiency:

$$v_z^D = \frac{E(c_z) - E^w(c_z, D)}{E(c_z)} \quad (5)$$

where $E(c_z)$ is the project efficiency of c_z without failures, $E^w(c_z, D) = \min_D(E(c_z, D))$ is the worst performance of c_z with task failures, $E(c_z, D)$ is the project efficiency of c_z with the specific failed task, and D includes a set of task failures on c_z . Efficiency is a measure of the overall network performance, and reflects the global connectivity of the individual project.

The efficiency of the weighted directed network (G^w) can be defined as (Latora & Marchiori, 2001):

$$E(G^w) = \frac{1}{N(N-1)} \sum_{i \neq j} \varepsilon^w(i, j) \quad (6)$$

where $\varepsilon^w(i, j) = \frac{1}{d^w(i, j)}$ assumes that the smaller the geodesic distance between a pair of nodes, the more efficient the information or energy transmission, with $d^w(i, j)$ being the shortest path length from n_i to n_j . In a megaproject network, if w_{ih} is twice as large as w_{hj} , the distance e_{ih} is half the distance of e_{hj} . Therefore, the shortest path for the weighted directed network can be defined as (Opsahl et al., 2010):

$$d^w(i, j) = \min \left(\frac{1}{w_{ih}} + \dots + \frac{1}{w_{hj}} \right).$$

As the vulnerability of c_z in a megaproject network needs to consider both the project "outer" vulnerability and the project "inner" vulnerability, the vulnerability of the c_z can be defined as:

$$v_z = \frac{1}{(1-v_z^D)} * v_z^c; \quad \text{if } 0 \leq v_z^D < 1 \quad (7)$$

As network vulnerability is the maximum vulnerability of all its components (Arianos et al., 2009; Latora & Marchiori, 2005), the megaproject vulnerability (v_G) can be defined as:

$$v_G = \max_z v_z \quad (8)$$

Experimentation

In this section, the proposed approach presented in the previous section is applied to a megaproject to assess its vulnerability and identify the critical projects. The simulations were conducted using Python and NetworkX. NetworkX is a Python package for the creation, manipulation, and study of the structure, dynamics, and functions of complex networks (Hagberg et al., 2008).

Modeling the Megaproject as a Network

As shown in Figure 2, the megaproject network, drawn with a spring layout, denotes a megaproject that has 19 projects, 643 nodes, and 1,001 weighted directed edges. Each node in the megaproject network corresponds to a task, the links within each project representing the task interactions and sequential order, and the links between the different projects representing the project interdependencies.

As tasks in one project are usually tightly linked to each other, but sparsely connected to the tasks within other projects, it can be assumed that each individual project corresponds to a community within the megaproject network; that is, this megaproject network can be partitioned into 19 communities. c_1 has 32 tasks that correspond to nodes 1–32, with the last node (node 33) representing the end mark of c_1 . Likewise, c_2 to c_{19} , respectively correspond to nodes 34–66, nodes 67–104, nodes 105–152, nodes 153–181, nodes 182–213, nodes 214–256, nodes 257–278, nodes 279–299, nodes 300–345, nodes

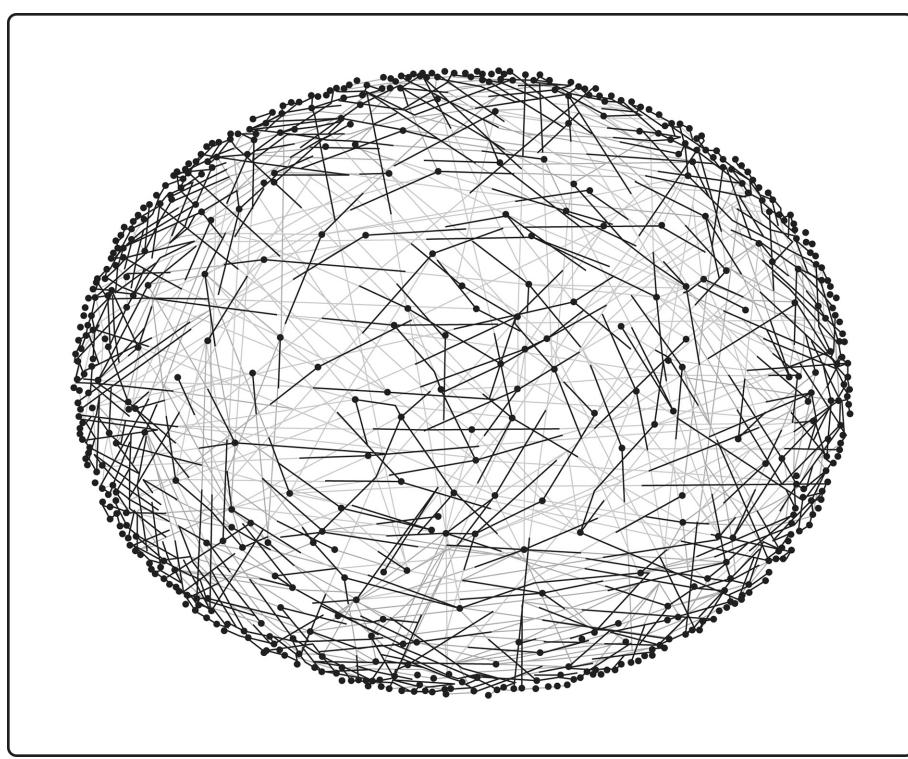


Figure 2. A megaproject network with 643 nodes and 1,001 links.

346–387, nodes 388–402, nodes 403–439, nodes 440–471, nodes 472–534, nodes 535–560, nodes 561–583, nodes 584–612, and nodes 613–643. By calculating the modularity Q of this community partition of the megaproject using Equation (2), a modularity value is determined of $Q = 0.9519$, which indicates that this is an effective community structure division in this megaproject network.

As this megaproject is too large for a detailed description, the project interdependencies within the megaproject network are described in a simplified figure (Figure 3), and the task interdependencies within the individual projects are not depicted. The number written above the links reflects the intensity of the interactions, which is quantified by using Equation (1).

Megaproject Vulnerability Assessment

The experiment demonstrated the applicability of the proposed methodology. The megaproject vulnerability assessment considers both a project's "inner" vulnerability, and a project's "outer" vulnerability. Specifically, the megaproject vulnerability is assessed as follows:

Step 1: Calculate the v_z^c for each project using Equation (4);
 Step 2: Calculate the $E(c_z)$ and the $E^w(c_z, D)$ for each project using Equation (6);

Step 3: Calculate the v_z^D for each project using Equation (5);
 Step 4: Calculate the v_z for each project in the megaproject network using Equation (7);

Step 5: Calculate the megaproject vulnerability (v_G) using Equation (8).

The results for the project vulnerability to the rest of the megaproject network (v_z^c) are shown in Table 1 and Figure 4. In Figure 4, the line with black circles is v_z^c , which indicates that the five most critical projects in the megaproject in descending importance are c_{13} , c_{19} , c_6 , c_4 , and c_{11} ; the five least critical projects in ascending vulnerability are c_7 , c_{10} , c_{16} , c_9 , and c_5 . c_7 is the least critical project as it has 10 interconnections to other projects. While c_{13} , c_{19} , and c_6 all have a single link to other projects, v_{13}^c has the highest value of vulnerability, which further indicates that both the number and the intensity of the interactions play a vital role in project "outer" vulnerability.

The project "inner" vulnerability (v_z^D) is quantified as the maximum vulnerability of all possible task failures, the results for which are shown in Table 1. Therefore, to investigate the project "inner" vulnerability, the vulnerability of all tasks in the project is examined. Component failures in complex networks are usually simulated by deleting the corresponding nodes or links (Albert & Barabási, 2002), and the vulnerability assessment for each task failure is conducted by removing the corresponding node from the network. It is obvious that different projects' "inner" vulnerability varies a lot.

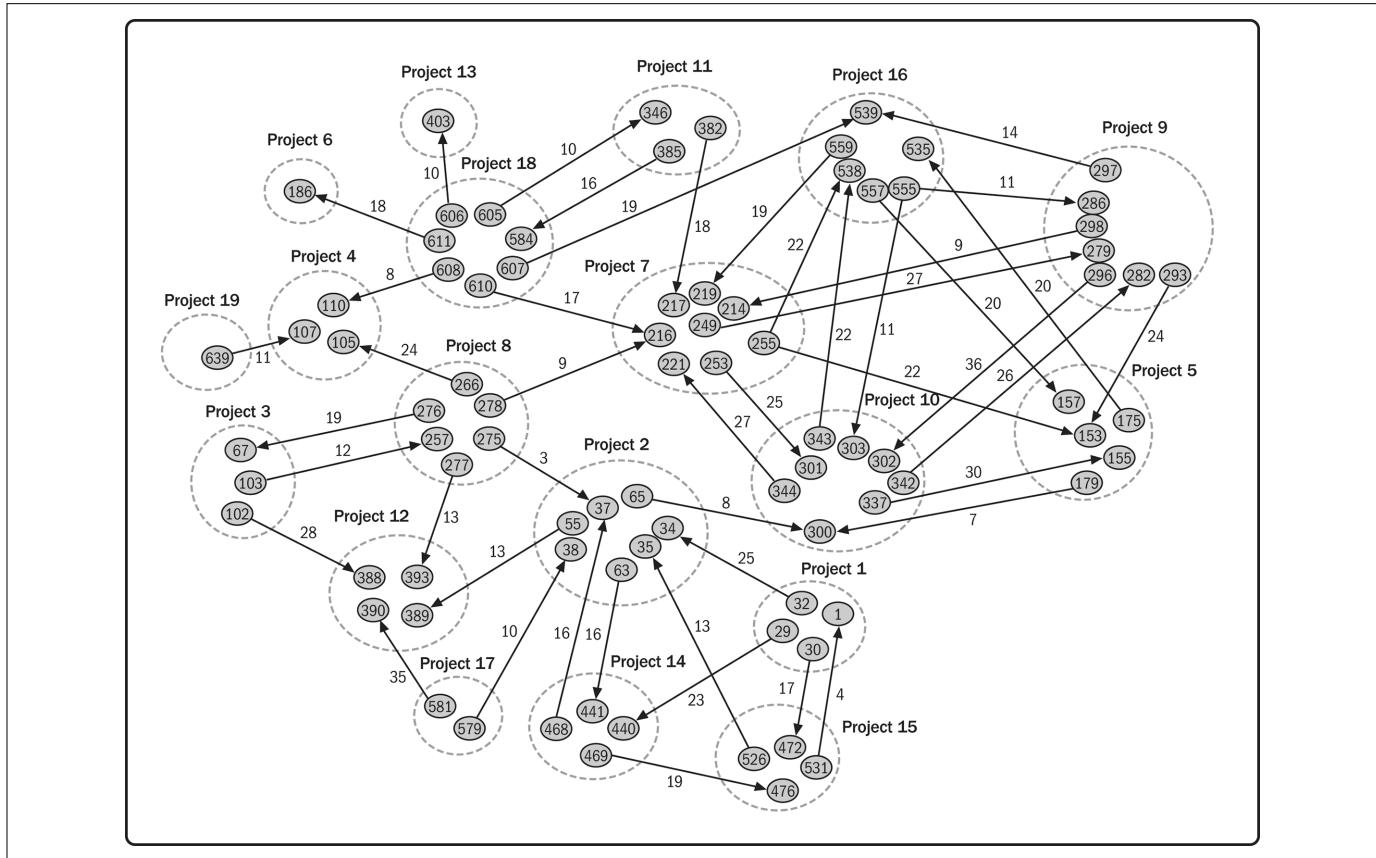


Figure 3. Project interdependencies within the megaproject network.

In Figure 4, the line with the white circles represents v_z . The vulnerability of the megaproject network is $v_G = 0.3893$. It is obvious that $v_z > v_z^c$, $z = 1, 2, \dots, 19$, which indicates that any single task failure could result in a substantial reduction in project efficiency and thus further aggravate project vulnerability. The relative vulnerability values for each project can be used as guides to identify the most critical projects, the failure of which could severely impact megaproject implementation. The five most

critical projects in the megaproject in descending order are c_{13} , c_{19} , c_6 , c_{17} , and c_{11} ; that is, c_{13} is the most vulnerable function unit in the megaproject. Furthermore, the order of v_z and the sequence of v_z^c show some variations, which indicates the impact of the project's inner states on the megaproject vulnerability. In conclusion, the simulation results illustrated the effectiveness and practicality of the proposed approach in assessing megaproject

Table I. Vulnerability Indexes in the Megaproject

c_z	v_z^c	v_z^D	v_z	c_z	v_z^c	v_z^D	v_z
c_1	0.0435	0.2979	0.0620	c_{11}	0.0681	0.1785	0.0829
c_2	0.0288	0.2490	0.0383	c_{12}	0.0336	0.3153	0.0491
c_3	0.0507	0.1422	0.0591	c_{13}	0.3000	0.2293	0.3893
c_4	0.0699	0.1239	0.0798	c_{14}	0.0405	0.2489	0.0539
c_5	0.0243	0.2053	0.0306	c_{15}	0.0567	0.0870	0.0621
c_6	0.1668	0.1397	0.1939	c_{16}	0.0189	0.3160	0.0276
c_7	0.0153	0.2323	0.0199	c_{17}	0.0666	0.2217	0.0856
c_8	0.0375	0.3464	0.0574	c_{18}	0.0306	0.2633	0.0415
c_9	0.0204	0.3192	0.0300	c_{19}	0.2727	0.2228	0.3509
c_{10}	0.0156	0.1316	0.0180				

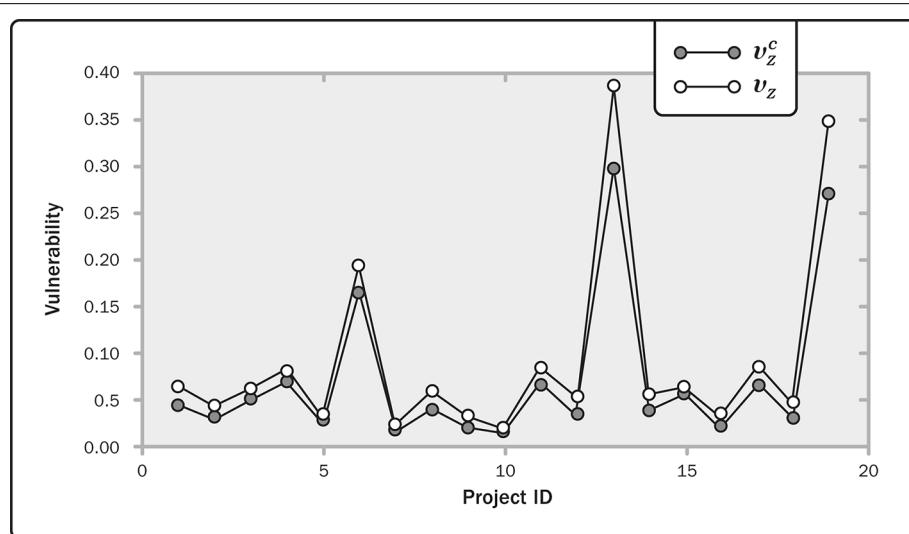


Figure 4. Project vulnerability in the megaproject network.

vulnerability and identifying the most critical projects within the megaproject. This approach could also be applied to quantifying megaproject vulnerability under certain types of disruptive events and identifying the most critical tasks within an individual project.

Discussion

The insights gained from the experimentation results have implications for managers in the implementation of protective measures to ensure megaproject success. In this section, three protective countermeasures are presented and several limitations and possible future work are discussed.

Optimizing Megaproject Structures

Vulnerability analyses can give guidance on the design of optimal megaproject structures. In the megaproject planning stage, a comparison of the megaproject vulnerability under different design structures could assist in the choice of an optimal megaproject structure. The experimental results indicated that there were dramatic improvements in megaproject robustness as the interdependencies increased between the projects; that is, the projects with weak interdependencies with other projects were found to be more vulnerable, whereas the projects with stronger interdependencies were observed to be less vulnerable. Therefore, strengthening the cooperative relationships between projects could be an effective method for optimizing megaproject structures. Moreover, the projects with fewer tasks tend to have higher “inner” vulnerability, which may aggravate megaproject vulnerability; therefore, avoiding small-scale projects can contribute to mitigating the vulnerability of megaprojects. The core of this strategy, therefore, is to enhance the robustness of megaprojects in the planning stage.

Prioritizing Megaproject Protection Strategies

Despite the unpredictability of component failures, it is possible to conduct vulnerability analyses to identify the components most critical to megaproject functioning and performance. As critical task/project failures can significantly affect megaproject success and the resources needed to protect the megaproject are limited, the protection of the most critical tasks/projects should be given priority. Specifically, the prioritization of protection strategies, such as giving precedence to resource allocation, component maintenance, and emergency response preparation, could be based on critical task/project rankings. In short, setting strategic protection priorities not only could reduce the impact of task/project failures on megaproject but also could optimize the megaproject resources.

Assisting Megaproject Risk Management

Component failures can result in workflow interruptions, work delays, and additional costs. Risk is generally viewed as a combination of possible consequences and associated uncertainties (Aven, 2007); that is, the risk of component failures can be estimated by considering the probability of component failures and its possible consequences. Megaproject vulnerability assessments can help in understanding the consequences of component failures; with the information of failures probability, the risk of component failures can be quantified in advance; thus, managers may predict whether the megaproject is within acceptable risk levels under different situations. Therefore, it can assist managers in better preparing the most suitable measures to reduce possible risk and adjusting the megaproject to cope with any negative consequences. Critically, our approach complements the three main techniques currently in use to measure project vulnerability: historical data on similar projects, expert judgments, and

on-the-spot investigation. As a quantitative tool focused on the structure of the current project rather than on historical data, our approach seeks to enhance the rigor of megaproject vulnerability assessment. In brief, our approach to the assessment of megaproject vulnerability could provide a basis for better understanding risks, which can aid in enhancing megaproject risk management.

Future Research

Despite the novelty of applying complex network theory to the assessment of megaproject vulnerability, this study has some limitations. First, during the network modeling process, it was assumed that the task weights only depended on task duration. However, when additional data become available, a more comprehensive indicator for evaluating the node weights could be developed to strengthen the proposed model. Second, this article studied megaproject vulnerability from a static topological perspective without considering dynamic network behaviors. However, because of the task interactions, the study of cascading failures in megaprojects is a vital direction for future research, as this would improve understanding about the extent to which task failures could trigger system-level breakdowns or whether a ruptured interdependence could initiate a collapse of the whole megaproject. Third, a comparison of megaproject vulnerability under different organizational structures could provide a more comprehensive view of vulnerabilities identification and risks prevention.

Conclusion

With the rise in the number of megaprojects and growing levels of uncertainty in all its manifestations, there has been a commensurate demand in megaproject proactive risk management. Megaproject vulnerability assessments can complement proactive risk management, and can provide powerful tools for the enhancement of operational efficiency and the improvement of the construction process. To assess megaproject vulnerability, a vulnerability metric based on complex network theory was proposed in this article. The proposed approach was applied to a megaproject and was demonstrated to be effective in assessing vulnerability and identifying critical projects. Subsequently, several protective strategies based on theoretical analysis and the experimentation results were suggested for managers to ensure the success of megaproject operations. Overall, this study developed a quantitative megaproject vulnerability assessment approach that can help to expose a megaproject's inherent weaknesses, which could assist managers in reducing possible risks and responding to possible adverse effects, thereby improving overall megaproject performance.

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The Role of the Project Management Office (PMO) in Stimulating Innovation in Projects Initiated by Owner and Operator Organizations

Natalya Sergeeva¹ and Sultan Ali¹

Abstract

This article explores the extent to which innovations are driven by the project management office (PMO), an internal unit within owner and operator organizations that is responsible for overall project assurance and control. Semi-structured interviews were conducted with organizational members of Transport for London (TfL), a public transport owner and operator organization and a key stakeholder in the UK infrastructure sector. This was combined with the analysis of four project assurance reviews initiated and delivered by TfL. The findings demonstrate that the PMO provides opportunities for building and enhancing innovative capabilities of the owner and operator organization.

Keywords

innovation, innovation capabilities, owner and operator organization, project life cycle, project management office (PMO)

Introduction

It is increasingly emphasized that owner and operator organizations play an important role in stimulating innovation in projects (e.g., Orstavik et al., 2015; Winch, 2014). In this article, we define innovation as “the development and implementation of new ideas by people who over time engage in transactions with others within an institutional order” (Van de Ven, 1986, p. 590). Owner and operator organizations are accountable for the physical assets and their operation, bringing financial packages together and initiating projects (Winch & Leiringer, 2016; Zerjav et al., 2018). However, we still know little about the role of the project management office (PMO) within owner and operator organizations in driving innovation opportunities in projects (Too & Weaver, 2014). The PMO is seen itself as an organizational innovation (Hobbs et al., 2008), and there is emerging research into the key role of PMOs in the management of innovation projects (Artto et al., 2011). The research question that this study aims to answer is: What are the key roles of PMOs in stimulating innovation in projects initiated by owner and operator organizations? By answering this question, the research study aims to contribute to the existing literature by exploring the extent to which innovation in projects is encouraged through the specialized integrated arrangements of the PMO—an internal unit within an owner and operator organization that is responsible for overall project assurance and control.

The remainder of this article is structured as follows. Initially, the relevant literature on owner and operator organizations in driving innovation in projects is critically reviewed. This is followed by a discussion on leading innovation throughout the project life cycle, from the strategic front end to the operational back end. The roles of PMOs are outlined in stimulating innovation throughout the project life cycle. The empirical findings derived from the semi-structured interviews and project assurance reviews are then presented and discussed against the reviewed literature. The summary outlines the key points, acknowledges the limitations of the research study, and suggests future research directions.

Owner and Operator Organizations Driving Innovation

It is commonly understood that innovations are driven by owner and operator organizations, which have a direct relationship with customers and a strong interest in improving performance for those customers (Orstavik et al., 2015; Winch, 2014).

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By definition, capable owners should have innovative capabilities to drive and sustain innovations (Haugbølle et al., 2015; Winch & Leiringer, 2016). Early work by Gann and Salter (2000) states that the owner wields significant influence over the supply chain to drive innovation. The owner's selected procurement and payment route can significantly affect innovation activity, for example, the use of fixed-priced contracts transfers risk to the contractor (Eriksson, 2011; Lim & Ofori, 2007). This results in an increased focus on output control to reduce uncertainty. Risk and uncertainty are often identified as one of the main barriers to innovation in projects. Cameron and Green (2012) argue that uncertainty within an organization can cause fear, instability, anxiety, and a sense of loss of control. Sponsors and project owners may be risk-averse and do not seek innovation due to the increased risk of uncertainty and project failure (Davies et al., 2014). In contrast, innovation literature identifies flexibility, an appetite for risk, an organizational culture of exploration, a flexible governance system, and collaboration as key ingredients for innovation to thrive (e.g., Blindenbach-Driessen & van den Ende, 2006; Lenfle & Loch, 2010; Liu et al., 2014; Wan et al., 2005; Watson, 2011). However, project control, assurance, and management systems employed by owner and operator organizations that are used to achieve delivery of projects on time, to cost, and of quality may stifle the very necessary characteristics for innovation to occur (Keegan & Turner, 2002). Gemünden et al. (2018) explore how firms (structures, people, and values) organize their innovation function by means of projects, programs, and portfolios of projects. They argue that perceived organizational support of project managers is positively influenced by formalized processes for projects and portfolios, a caretaking PMO, and a visible engagement of senior management in a project-oriented organization.

Many contemporary organizations have recognized the need for a PMO to achieve project management oversight, control, and support. The main purpose for an organization establishing a PMO is to improve the performance of its projects. Some of the common service functions of PMOs include developing project management methodologies, assisting with forming project strategy, establishing project management oversight, facilitating innovation and knowledge management, leveraging previous solutions, enforcing the governance of projects, sharing best practices, and adapting and integrating business interests (Hill, 2004). Yet, we still lack a detailed understanding of the roles of PMOs in driving and facilitating innovation in the context of owner and operator organizations, which initiate projects.

PMOs: The Roles of Integrator and Promoter for Innovation

The vast majority of the literature suggests that the role of a PMO is to support, coordinate, and control project-related activities. According to Dai and Wells (2004), the PMO is an organizational entity or unit established throughout the organization in implementing project management principles,

practices, methodologies, tools, and techniques. Hobbs et al. (2008) investigate the creation and the reconfiguration of PMOs as an organizational innovation. Pemsel and Wiewiora (2013) view a PMO as a formal layer of control between top management and project management within a project-based organization that is an institutionalization of governance strategy; they see the PMO as a knowledge broker. Artto et al. (2011) conceptualize the PMO more broadly as an integrative arrangement than a specialized project-based organizational unit that may include facilitators, innovation groups, innovation processes, and/or management and innovation systems. According to Turner and Lee-Kelley (2012), PMOs are used in project-based organizations to develop, maintain, and institutionalize project management competencies. In their study, the ways PMO managers balanced exploration (e.g., risk taking, flexibility, innovation, informality) and exploitation (e.g., selection, refinement, execution, formality) are demonstrated. Furthermore, the PMO guides and enriches organizational project management maturity, and manages training and education aligned to organizational objectives (Too & Weaver, 2014). The PMO has direct links to the critical stages of a project life cycle by undertaking evaluations and assessments prior to allowing the project to proceed.

The research on the use of the PMO as a driver, diffuser, and integrator of innovation in the context of owner and operator organizations is somewhat limited (e.g., Aubry et al., 2007, 2008; Hobbs et al., 2008). Liu et al. (2014) state that construction innovation requires collaboration between the interconnected boundaries of a project. This suggests a need for an internal organizational synergizing force, which can be in the form of the PMO. The PMO is typically seen as an organizational unit used to integrate interorganizational structures, especially between leadership and the project, due to the existing lines of reporting channels (Artto et al., 2011). Bredillet et al. (2018) view the PMO as an organizational innovation initiated to assist owner and operator organizations in better managing and coordinating portfolio of projects. They establish a conceptual process model where portfolio management is conceptualized as a collection of routines forming an organizational capability; the PMO is conceptualized as an organizational meta-artifact and organizational subsystem designed to provide a solution to a problem. However, their research falls short in addressing the interplay between routines and change and innovation in PMOs.

The PMO can be reconfigured as a governance and innovative system to deliver the capabilities required for strategy materialization and project success (Hobbs et al., 2008; Karkukly, 2015). The transition from corporate to project strategy is communicated through organizational structures, cascading down from corporate planning, through enterprise levels into the portfolio, program, and project (Jamieson & Morris, 2004). Furthermore, Artto et al. (2011) argue that the PMO should adopt open and flexible management systems based on increased interaction and personalization to achieve the necessary capabilities for driving and supporting innovation.

Collating and sharing lessons learned through knowledge management structures is an internal organizational activity managed by the PMO (Kapsali, 2011). There is a case for the PMO to be utilized as a bridge to diffuse knowledge with the purpose of driving and promoting innovation (Aubry et al., 2010). Knowledge management is critical for the PMO to succeed in diffusing innovation and is also an important component of organizational ambidexterity (March, 1991; Pemsel & Wiewiora, 2013; Turner & Lee-Kelley, 2013). There is also research identifying the brokering role of the PMO and its respective functions (e.g., Aubry et al., 2010; Desouza & Evaristo, 2006; Julian, 2008). Pemsel and Wiewiora (2013) suggest that the PMO knowledge management structure must be aligned to the project manager's nature, needs, and expectations. Turner et al. (2014) identified the importance of implementing a project knowledge strategy at the front end to enable exploration and exploitation throughout the project life cycle. In summary, PMOs are identified as an important integrative arrangement for project and innovation management, yet there remains a lack of understanding in the ways innovation is stimulated by the PMO throughout the project life cycle.

Leading Innovation Throughout a Project Life Cycle

It is commonly recognized that the level of uncertainty is high at the front end of a project due to limited information available; when a project moves on, uncertainty reduces, as more information becomes available (Winch, 2010). It is increasingly emphasized that innovation at the front end of projects helps to reduce uncertainty (Davies et al., 2017). Furthermore, the front end of a project shapes the innovation and value co-creation (Arto et al., 2016). As stated by Matinheikki et al. (2016, p. 1228) "innovation is in the core of value creation." Kock et al. (2016) cite the need of an organizational mindset being open to taking risks, enabling project practitioners to exploit uncertainty by seeking innovative solutions. The research into "windows of opportunity" identifies the front end as an influential stage of the project life cycle (Hamilton, 2010). Loosemore (2015) further argues that innovation is a dynamic process and identifies the "encouraging stage" during the early stages of the project to stimulate innovation. During this stage, a number of factors are identified that influence the creation of an organizational environment conducive to innovation, including culture, linking innovation to flexible strategic corporate objectives, and leadership built on transparency and trust. Davies et al. (2014) identify four windows of opportunities to intervene and promote innovation at various stages of the project: bridging, engaging, leveraging, and exchanging. Their research is focused on a temporary project organization—the Crossrail megaproject. Yet, there is a scope to explore innovation opportunities in permanent owner organizations and the role of PMOs in driving innovation throughout the projects they initiate. The "bridging window" and the "encouraging window" illustrate the importance of influencing innovation at the front end of projects through leadership, governance management approach, culture, learning, and knowledge diffusion.

This is also supported by Herstatt et al. (2004) and Reid and de Brentani (2004), who reinforce that the front end is critical for building and improving innovative capability. We build upon their work to explore the extent to which innovation is stimulated by the PMO from the front end to the back end of the project life cycle.

The project front end has significant opportunities for influencing key decisions and requirements, and for increasing the chances of innovation opportunities. We argue that the front end of a project is where the value lies for innovation, which should be stimulated throughout its life cycle (Collyer & Warren, 2009; Shahu et al., 2012). Arto et al. (2011) reinforce that the front end provides the greatest opportunities for innovative capabilities of owner organizations. The PMO is considered to play a key role in stimulating innovation in projects, especially at the front-end phases. Arto et al. (2011) built upon the theories of organizational design and management control, calling for further research into the roles of PMOs in managing and leading innovation in projects.

The Interplay Between Innovation Exploration and Exploitation

The problem relating to the interplay between exploration and exploitation can be traced back to the work of Burns and Stalker (1961) who state that it becomes inevitable for individual firms in many industries to provide more support for research and development as a condition of their own survival. There is emerging literature into a balance between exploration and exploitation: organizations capable of exploiting their existing competencies while simultaneously exploring new opportunities (Andriopoulos & Lewis, 2009; Brady & Davies, 2004). Exploration involves risk taking, innovation, flexibility, and experimentation; whereas, exploitation involves refinement, pursuing efficiency, and implementing explored innovations (March, 1991). Striking a balance and a continuum between the two approaches, what is commonly referred to "ambidexterity," is where the challenge lies and can result in system survival or success (O'Reilly & Tushman, 2013; Turner & Lee-Kelley, 2013). However, this is challenging to achieve due to the different organizational structures and support required for both approaches (Liu et al., 2012). Overemphasizing exploitation can compromise competitiveness in the long term, whereas too much exploration can lead to self-destruction, uncertainty, and failure (O'Reilly & Tushman, 2013). Gupta et al. (2006) suggest that both exploitation and exploration can occur simultaneously; however, Andriopoulos and Lewis (2009) argue that exploration and exploitation are cyclical, where one succeeds the other. Whereas Liu et al. (2012) state that this can only be achieved by either creating new permanent or temporary separated structures or by promoting an environment that empowers employees to seek both.

The ways in which the balanced approach as a duality between innovation exploration and exploitation works in practice remain largely underexplored. There is little in the literature detailing ambidexterity in complex forms of project

organizing. Throughout the project life cycle, there are opportunities to explore and exploit innovations (Davies et al., 2014; Loosemore, 2015; Turner et al., 2014). For example, Liu and Leitner (2012) argue that as the project progresses the focus gradually shifts from exploration to exploitation, subsequently reducing uncertainty. Davies and Brady (2016) further argue that dynamic project capabilities are used to explore new possibilities and deal with rapidly changing and uncertain conditions, while at the same time are used to exploit current routines and perform repetitive processes. They distinguish between routine projects, which are focused on exploitation and organized to achieve predefined goals with a given set of resource constraints; innovative projects, which are focused on exploration and organized to deal with highly unforeseeable conditions when the means to achieve the objective is too difficult to define at the outset; and vanguard projects, which investigate new opportunities and encourage creative problem solving and efforts to establish new routines. We build upon their work in this article and emphasize that owner and operator organizations aim to balance exploratory and exploitative innovation activities in projects over time and become ambidextrous organizations.

Research Methodology

Research Design

Owner and operator organizations provide an appropriate research context for the very reason that they are recognized as driving innovation in projects that they initiate (Winch, 2014). Transport for London (TfL) is a public transport owner and operator organization with a multibillion-pound capital investment program, and is an influential stakeholder within the UK infrastructure sector. It sees itself as having a capability to drive and dictate innovation and change. With an expensive and complex capital investment program and an ever-tighter squeeze on finances, the risk of uncertainty and the need for greater control of limited resources means the pursuit of innovation is challenging. This challenge is increased when megaprojects are launched and fail. The “Sub-Surface Rail—Automated Train Control Programme” is a prime example that resulted in early contract termination with an £80 million termination fee and an estimated £900 million loss. This placed TfL’s project delivery capability under greater scrutiny and resulted in numerous recommendations for improving project performance and delivery, including increased internal assurance, access, and appointment of specialist skilled roles into management, supplier leadership, organizational and management capability, and active risk management as well as greater scrutiny during the tender process (KPMG, 2014). Critically, the KPMG review did not list “innovation” as a recommendation to improve project delivery capability. However, the recent successful implementation of early contractor engagement at Bank Station Capacity Upgrade is an example of innovation being created, practiced, and championed within the same organization (Sergeeva & Zanello, 2018).

Data Collection and Analysis

A total of 10 semi-structured interviews were conducted with practitioners from TfL. A purposive sampling approach was selected with a focus on participants’ engagement with the PMOs in the TfL organization and experience of the entire project life cycle. Using a qualitative semi-structured interviews research method enables us to focus on practitioners’ perspectives and interpretations on the role of the PMO in driving innovation in projects. An invitation to participate in the study was sent to all relevant people within the organization. Each interview contained six core questions followed by sub-questions and lasted 45 minutes on average (see Appendix 1 for details). Initially, participants were asked to provide the definition of innovation. They were then asked to identify barriers of innovation within TfL, in terms of the existing processes in relation to the PMO and project life cycle and their connection with an innovation. Additionally, documents of the four project assurance reviews were examined to better understand the ways innovation is stimulated in projects at TfL and the role of PMO in this process. Finally, an analysis of the TfL lessons learned portal was undertaken to supplement both interviews and project assurance reviews. The project assurance reviews were selected on the basis of their outcome about the innovation success. Lessons learned portal analysis concentrated on entries focusing on innovation. This allowed a view of the bigger picture concerning the ways innovation is driven by PMOs through different mechanisms and channels in owner and operator organizations. Table 1 presents the details about the organization and participants including job titles, number of years of experience, reviewed projects, and associated participants with these projects.

All interviews were recorded and fully transcribed by the second author. The analysis was conducted to identify emerging patterns from the semi-structured interviews (Yin, 2009). Codes were generated from the interviews and categorized into themes and subthemes. Common themes were deduced, identifying similarities and differences within the data set. An NVivo word frequency analysis was conducted across all interviews to identify common themes (see Appendix 2 for word frequency analysis). The content analysis of the documents of project assurance reviews and lessons learned portal were conducted manually by reading and making notes of the common themes. In total 2,359 lessons learned were extracted and analyzed from the internal TfL knowledge portal.

Empirical Findings

Providing Context for Innovation

Participants provided varied definitions of innovation. For example, 70% of participants identified “product” as part of their definition of innovation and the word “new” was used by all participants. The NVivo word frequency analysis demonstrate that words “product,” “process,” “new,” and “improvement” were most frequently used. The lack of a consistent definition of innovation can be attributed to the professional

Table 1. Characteristics of Organizations and Participants Interviewed

Organization	Participants and Their Job Titles	Years of Professional Experience
Transport for London Project Management Practitioner(s)	Participant 1 – PMO Manager Knowledge Lead Participant 2 – Project Manager Participant 3 – Project Manager Participant 4 – Assistant Project Manager Participant 5 – Construction Manager Participant 6 – Assistant Project Manager Participant 7 – Lead Project Engineer Participant 8 – Systems Engineer Participant 9 – Principal Project Sponsor Participant 10 – PMO Manager	17 3 14 2 22 2 12 6 5 4
Reviewed projects	Associated participants	
Project A: Failed innovation but successfully delivered (£12.5 million)	Participant 6 – Assistant Project Manager	
Project B: Successful innovation and project (£34 million)	Participant 5 – Construction Manager	
Project C: Failed innovation and failed project (£354 million)	Participant 7 – Lead Project Engineer	
Project D: Live Megaproject with active innovation (£1 billion)	Participant 9 – Principal Project Sponsor	

backgrounds of the participants and their respective roles within the organization. For example, the participants from the PMO provided a process-focused definition of innovation:

Innovation is finding new ways of doing things, it is a process led to improving something. (P1)

Whereas the project management participants focused on a product-based view:

A new way of doing things, having new ideas, improving performance, products, and work processes. (P3)

The project management function has a tangible objective focused on delivery, whereas the PMO function concentrates on organizational processes, governance, and best practices. This variation is an example of the influence of context and the ambiguity of defining innovation.

The extracted lessons learned below was from a project adopting the innovative contractor engagement procurement route, which involved contractors being engaged early to devise innovative solutions:

Feedback from the bidders showed a lack of shared understanding of what was meant by the use of the term “innovation.” This caused the bidders to produce varying schemes of differing levels of innovation. (P1)

This illustrates the practical consequence of an inconsistent definition of innovation with confusion caused to both contractor and project (Baregheh et al., 2009).

The interview responses suggest that a consistent definition of innovation is absent at TfL, whereas the lessons learned example demonstrates a need for a shared understanding. The project assurance reviews did not identify innovation being formally defined at the start of any project. But all participants are aware of the need to innovate in response to business and project challenges. This need is evident in the response from the Lead Project Engineer from Project C:

Old railway, old practices, and old materials; we need to be innovative to keep up with regulations, improvements in technology, and the demands of London. (P7)

This is further supported by the Assistant Project Manager stating that innovation will only occur when there is a problem or if the project team is being challenged by leadership. Additionally, the Systems Engineer stated:

I wouldn’t pursue innovation if there wasn’t a need or a requirement driven by leadership unless I have identified a demonstrable benefit. (P8)

Practitioners acknowledge the need to innovate due to the challenges or problems they face on projects. This need can be attributed to the reason why a definition of innovation is not present and is evident in the responses from the sponsor of Project D:

If we want to be world class, we need to innovate; we have to develop and try new things to keep up with the increasing customer, financial, political, and technical demands. (P9)

The results corroborate the ambiguity found in the literature. Akintoye et al. (2012) recognize the need for a definition based on project and business context. It is clear that a shared understanding of innovation does not exist in practice and there is a need for it to be present, especially in commercial terms; however, the actual practical application of innovation suggests that the absence of an innovation definition does not affect the successful outcome of innovation. The results continue to fuel the ambiguity surrounding the definition of innovation.

Participants were further asked to explain the importance of innovation at TfL and identify innovation barriers. The most common innovation barriers identified were: resources, governance and control systems, organizational factors, external environment, and stakeholders. Of these five, company resources, organizational factors, and stakeholders were the most commonly identified barriers. Particular focus was placed on the cost of innovation. As expected, the majority of the findings correlated with secondary sources, including costs, culture, leadership, and complexity (Bossink, 2004; Ozorhon et al., 2014; Watson, 2011). Participants connected numerous barriers to change, including culture and resistance, which were interchanged frequently. Additionally, leadership, stakeholders, political pressure, public scrutiny, and trade union overlapped frequently in participants' responses. Instances of subjective barriers were present; for example, interview responses identified the need to engage and collaborate with the wider supply chain to innovate and improve performance:

A lot of the challenges we faced was the Tier 1 failing to manage lower tiers. We now help Tier 1 and build relationships with the lower tiers directly. (P3)

However, one of the key reasons why the innovative framework contract used on Project A failed was because of this very interaction with the lower tiers:

Our subcontractors simply were not up to scratch when it came to assurance ... we struggled to cope with all the extra governance. (P4)

This quotation demonstrates the struggle around project assurance and governance that was seen as a barrier to innovation. A further example is in the identification of trade unions as a barrier and the presumed conflict between innovation and project management. Union influence and power, in operational and maintenance environments, was identified as a barrier and a factor of influence that is not currently represented in the literature:

It is very important to get union buy-in ... If the unions aren't satisfied nothing will be achieved. (P8)

This was shared by the Principle Project Sponsor and Assistant Project manager, both identifying a similar issue of being forced to curtail innovative solutions due to the risk of

union objections and the project facing additional costs to train all operatives:

The operational environment is very resistant to change and is highly unionized; their stance is if it doesn't break—don't fix it. (P9)

On the contrary, Project B highlighted the importance of union influence. The business case for this complex, high risk, and expensive project was supported by operational and maintenance representatives that helped gain management buy-in, enabling the project to proceed to authority. It was recognized as important to get support from the union at the front end of a project:

I decided to meet and talk to union members at the beginning of the project to build some of their issues into scope ... As a consequence, I had their support throughout the whole project. (P2)

The unions are recognized as playing a significant role at TfL, ensuring that the operational environment is safe for passengers and that employees have a significant influence when attempting change. The main finding identified is the importance of engaging the unions in the project front end to gain buy-in and support throughout the latter stages of the project.

Tensions Between Innovation and Project Management

Tensions between innovation and project management were evident in the empirical findings. These tensions were balanced between the front end, where the focus is to develop the best solution, and delivery, where the focus was to ensure efficient achievement of project objectives (Freeman & Soete, 1997; Keegan & Turner, 2002; Lenfle & Loch, 2010). All participants highlighted the importance of cost, time, and quality for successful delivery, and only the engineering participants identified project management as a barrier:

Innovation can be an iterative process, and project managers tend to kick-back on ideas or solutions that may affect [the] program. (P7)

I would always seek the best engineering solution, and not the solution to please the project manager. (P8)

All participants identified innovation (varying scale) as a critical factor for delivering projects; however, 70% of the participants stated that the iron triangle (i.e., time, cost, quality) was critical to delivery and projects need to be protected from scope creep—increases to the program and budget. Additionally, 8 out of 10 participants failed to identify any specific project control systems, tools, or techniques as barriers of innovation (risk management, scheduling, quality assurance, etc.). The management of projects at TfL can provide insight into why this conflict is present:

Project management at TfL is a process that is repeated; scale of projects may change but the processes are generally the same. (P3)

This response potentially identifies why there is a dual approach to seeking innovation at the front end while also protecting the project through traditional control systems. The results suggest that project management systems are engrained into the normative organizational processes due to the repetitive nature of project processes. A perfect example of this is Project D, which adopted an innovative funding model, yet maintained existing methods of project management.

There is further evidence of this in the most successful innovative project reviewed, Project B, which underwent several virtual and physical trials to test the designed concept in the front end prior to committing resources to the project:

We undertook trials and testing to validate solutions prior to full roll-out or project commitment. (P7)

This demarcation between innovating in the front end and delivering through controlled project systems is evident in Project A; the specific example of this is the innovative framework contract failed to deliver the prescribed benefits because of an attempt to extract efficiencies through Tier-2 subcontractors once in the delivery stage.

Three active realities to this conflict were discovered: confidence, importance, and obligation. Participants identified that they are confident with innovation in the front end and moderately confident with innovation during the back end of projects. They acknowledged the importance of innovation for project delivery and expressed their obligation for delivering within the iron triangle. A further explanation as to the co-existence of these three realities is the presence of positivist bias among the participants. One of the reasons why project management and other control systems were not fully perceived as barriers is the role of benefits. All participants—project management, engineering, sponsorship, and PMO—identified the importance of benefits in the face of financial, engineering, and project pressures. This was a consistent narrative throughout all of the interviews, with more than one participant citing cost-benefit ratio for financing innovative projects. This is best summarized in the quote below:

Scope creep can result in increased costs and difficulty in delivery, but scope creep in the other direction can result in loss of benefit realization. (P9)

Based on the collated research, it can be suggested that the project community at TfL has a consensual focus on benefits and is open to innovation for realizing project benefits with an expectation of achieving positive outcomes from innovative activity. The findings identified tensions between innovation and project management; however, there is a clear demarcation

of these tensions from the front end to the back end of projects.

Innovating Through the PMO Throughout the Project Life Cycle

To ascertain the suitability of utilizing the PMO to drive innovation throughout project life cycle, participants were asked to identify at which stage of the project life cycle they feel most comfortable to innovate. Additionally, the level of interaction, method of communication, and frequency of information flow between the PMO and project was investigated. Evidence collated from all three sources highlighted the front end as the best period to explore different innovative solutions and influence project direction:

Front end allows flexibility to explore different options and weigh up costs and the best solution for business (P4)

The findings concur with the literature, with participants stating that they were open to and actively seeking innovative solutions at the front end (Arto et al., 2011; Davies et al., 2014; Hamilton, 2010; Loosemore, 2015; Turner et al., 2014). One participant identified the front end as their preferred stage for innovating, and this anomaly can be attributed to the participant's position within the PMO and not frontline delivery. A second preference emerged: Innovating outside the front end was not desirable, but participants considered exploring and adopting innovative solutions based on possible benefits to the project and business:

It is challenging to deliver new solutions during delivery due to costs and program impact. Although [I] would consider [new solutions] if new benefits can be extracted" (P6)

This second preference was a consistent theme among the participants, suggesting they would be willing to innovate during the latter stages of the project life cycle should the benefits exceed costs. This is also evident in Project B, which highlighted an acceptable level of failure when attempting new construction processes during delivery. This can be attributed to the high risk and complexity of the specific project; however, there was also evidence of project control mitigating uncertainty in the front end:

Development of additional scope requirements at feasibility and concept stage put pressure on workload and re-works close to stage-gate reviews. (P3)

This refers back to the dual approach of innovation and project management at TfL. Changes identified during the front end close to gate reviews were considered challenging, suggesting that the flexibility required for innovation in the front end was still compounded by project control mechanisms. While the front end was identified as the stage for exploring different innovative solutions, innovation process shall continue to the

back end of projects if the benefits could be extracted. Furthermore, the influence of project control was still evident in the front end, suggesting that a project control system was still a focus for practitioners, especially at gate reviews. Additionally, innovation-as-usual is an emerging theme; for example, all participants supported innovation in the front end and acknowledged a willingness to innovate during delivery. Furthermore, all four project assurance reviews demonstrated the presence of innovation, but none actively sought innovative outcomes. The pursuit of benefits and use of innovation to tackle project and business challenges is further evidence of innovation-as-usual. However, harnessing this presumptive state requires an organizational entity to balance innovation, project management, and control discontinuity.

Interaction with PMO

The importance of sharing knowledge and extracting lessons learned was a critical aspect for being innovative. As proposed, the PMO as a driver of innovation was dependent on the interaction between project, business, and the PMO. The project management literature identified this interaction through the mechanisms of knowledge management, diffusion of learning, project control, and assurance (Artto et al., 2011; Aubry et al., 2010; Pemsel & Wiewiora, 2013). The findings demonstrated a consistent information exchange between management, PMO, and project management functions throughout the project life cycle. Three frequent interactions were recognized: stage gates, periodic reporting (progress, finance, etc.), and knowledge-sharing activities. Participants 2, 3, and 9 highlighted the authority of the PMO in the front end, with the PMO influencing the delivery and procurement methodology and approving projects to proceed through gates. This is also evident in the role of the PMO championing the use of the innovative contractor engagement approach across the business. The findings support the research of Davies et al. (2014) and Loosemore (2015) about windows of opportunities. This article contributes to the literature by recognizing the PMO as playing a driving role in the innovation process throughout the project life cycle. A further critical element to bolster this claim is the role of knowledge management and learning for innovation. Findings suggest that a relationship between learning, exploration, and management of innovation exists (Gupta et al., 2006; March, 1991; O'Reilly & Tushman, 2013). For example, seven participants mentioned the importance of using lessons learned from previous projects to explore innovative solutions for future projects:

We were able to reduce our programme costs and reduce customer impact, due to the shared knowledge and through the use of innovative techniques and processes gained from other projects. (P3)

Additionally, the PMO takes a proactive approach to managing knowledge on complex projects:

We actively approach projects that are high risk, high EFC and politically sensitive at all stage gates for lessons learned and knowledge sharing. (P10)

The findings have demonstrated that existing PMO structures and processes penetrate throughout the project life cycle. The PMO has influence at the front end and the back end through knowledge management processes, and procedures are actively being used by the project community.

Discussion

Our empirical study demonstrates that the PMO has a role in coordinating and stimulating innovation and change through spotting and identifying opportunities for innovation to deliver projects successfully. The PMO enables a communication chain among the actors, projects, programs, and portfolios. Our empirical findings support the emergent literature on the PMO as an organizational innovation initiated to assist owner and operator organizations in managing and coordinating portfolios of projects (Aubry et al., 2007; Bredillet et al., 2018), as well as in developing, enhancing, and maintaining project and innovation management competencies and capabilities (Turner & Lee-Kelley, 2013). We show that PMOs within owner and operator organizations play an important role in stimulating innovation in projects from the strategic front end to the operational back end. Our findings are consistent with Artto et al. (2011), who outline the role of PMOs as an integrative arrangement for innovation. Transport for London (TfL), an owner and operator organization, can be seen as ambidextrous, focusing on a balance and continuum between innovation exploration and exploitation activities. The empirical findings demonstrate that the project front end provides the greatest opportunity for innovation exploration, whereas the project back end provides the greatest opportunity for innovation exploitation. PMOs play an important role in integrating and balancing innovation exploration and exploitation throughout project life cycles. This is consistent with Davies and Brady (2016), who acknowledge the challenge of balancing innovation and routine activities in complex projects containing a variety of predictable and highly uncertain conditions. Owner and operator firms aim to simultaneously exploit current routines and explore new opportunities that will define the future.

Innovation is stimulated in an owner and operator organization through the PMO throughout project life cycles. This is based on the evidence of organizational structures and processes of the PMO being utilized during the project life cycle for innovative project delivery, including knowledge sharing, promotion of innovative project and procurement methods, and influence over project approval. The common narrative is focused on benefits, innovation-as-usual, and the professional obligation of participants to respond to the financial, political, and technical challenges faced by the business. This is underpinned by the PMO knowledge management mechanisms to influence the selection of the project management systems,

Table 2. The Key Roles of the PMO in Stimulating Innovation in Projects Initiated by Owner and Operator Organizations

Key Roles of the PMO in Stimulating Innovation in Projects	Detailed Explanation
PMO as a stimulator of innovation from strategic front end to the operational back end	<ul style="list-style-type: none"> • PMO assists in spotting and identifying opportunities for innovation to deliver projects successfully • PMO increases interaction with key stakeholders with a high influence of important actions to drive innovation in line with business strategy • PMO assists in the formation of innovation strategy • PMO enables a communication chain between the actors, projects, programs, and portfolios
PMO as a supporter of innovation throughout the project life cycle	<ul style="list-style-type: none"> • PMO ensures innovation that occurs outside the front end is supported—subject to justification of benefits • PMO supports the occurrence of innovation during the delivery stage through existing mechanisms such as change control
PMO as a coordinator of innovation throughout the project life cycle	<ul style="list-style-type: none"> • PMO enables and coordinates a balanced approach to building and enhancing exploration and exploitation innovation capabilities • PMO assists in improving the firm's ability to refine the existing knowledge domain and continuously create new knowledge and take opportunities • PMO enables and coordinates building and enhancing knowledge management capabilities

procurement strategy, and the feasibility of the proposed solution. Assuring the selections will require the PMO to collaborate with the sponsor and union representatives that were identified as key factors of influence. At the front end of projects, the PMO assists in the development of the project deliverables (feasibility study, concept design, etc.) and in the formation of the project system aligned to project objectives irrespective of a focus on innovation (management, procurement, and governance strategy). Additionally, the PMO assists in implementing an appropriate knowledge management strategy. During the project delivery, the PMO focuses on traditional routine assurance of delivery and ensures innovations that occur outside the front end are supported—subject to justification of benefits. The PMO supports the occurrence of innovation during the delivery stage through mechanisms such as change control. Table 2 summarizes the key roles of the PMO in stimulating innovation in projects initiated by owner and operator organizations.

The article contributes to the previous studies that outline the role of PMO as an integrative arrangement for innovation (Artto et al., 2011; Aubry et al., 2007, 2008). It clarifies that the project front end provides the greatest opportunities for building innovation and knowledge management capabilities, and the back end continues to provide opportunities for exploiting them further. Yet, we reinforce that the interaction between innovation exploration and exploitation is continuous and balanced from the strategic front end to the operational back end. The balanced approach is best understood through a duality of control/flexibility, formality/informality, exploration/exploitation (Turner & Lee-Kelley, 2013). This is a fresh perspective on the ways PMOs assist owner and operator organizations in building and enhancing their exploration and exploitation innovation capabilities. It is important to note that leadership and

business strategy play important roles in encouraging and supporting innovation (Hobbs et al., 2008).

Managerial Implications

This study offers key implications for management in owner and operator organizations. First, owner and operator organizations, and the PMO—an internal department within them—play an important role in stimulating innovation in projects. PMOs provide an integrative arrangement for the balanced approach to innovation. Owner and operator organizations can become ambidextrous depending on the extent to which they achieve the balance and continuum between innovation exploration and exploitation. We suggest that the meaning of ambidexterity is best understood as the duality between exploration/exploitation, control/flexibility, and formality/informality. PMOs assist owner and operator organizations in improving their ability to refine the existing knowledge domain and continuously create new knowledge and take opportunities. The role of activity and enthusiastic individuals, agents, and champions in owner and operator organizations play a crucial role in leading and promoting innovation.

Limitations of the Study and Further Research

The present study is limited to a single case of owner and operator driving innovation internally through the PMO and is based on a limited number of participants. Further research is needed to explore the role of PMOs in owner and operator organizations in stimulating innovation, and more specifically from the strategic front end to the operational back end of project life cycles in encouraging and promoting innovations. Future research may explore ambidexterity in greater detail, as an interplay between

innovation exploration and exploitation, and the extent to which the organization maybe seen as ambidextrous. Of further interest is the role of innovation champions and agents in driving innovation in owner and operator organizations in addition to the PMO. The networks of innovation champions and agents in owner and operator organizations is an area that needs further attention.

Appendix 1

Question Objectives and Sample Questions

Question objective 1	Identify definition of innovation
Question(s) 1	<i>What is your understanding of innovation?</i>
Follow-up questions	What is your experience of innovation at TfL? How important is innovation to TfL?
Question objective 2	Explore the relevance of innovation to project delivery
Question(s) 2	<i>How important is innovation to delivering projects at TfL?</i>
Follow-up questions	At the cost of time, cost, and quality? Can you identify any examples of innovation (e.g., product, processes, services)?
Question objective 3	Identify barriers to innovation
Question(s) 3	<i>What are your main challenges for managing innovation?</i>
Follow-up questions	How have you overcome barriers?
Question objective 4	Identify level of interaction between project/PMO
Question(s) 4	<i>What is your relationship with the project management office at TfL?</i> <i>How often and at what stage do you interact with projects?</i>
Follow-up questions	Do you consult the PMO with any non-technical issues? Do you agree with the PMO?
Question objective 5	Determine the stage at which innovation is most likely to occur
Question(s) 5	<i>At which stage of the project do you feel the most comfortable with trying new ideas or concepts that have an element of the unknown?</i>
Follow-up questions	How often do you interact with the PMO?
Question objective 6	Identify the importance of the iron triangle
Question(s) 6	<i>How important is protecting your scope, budget, and program as a project practitioner?</i>
Follow-up questions	What would you prefer? Delivering on time, under budget, and to scope, or delivering a novel item that could potentially be beneficial for the industry and business at the cost of time, cost, and quality?

Appendix 2

Word Frequency Results (NVivo)

Most frequent words	No. of exact and stemmed occurrences in responses to Q1	No. of stemmed occurrences through entire Interview—All questions	Average frequency across six questions
Product	7	20	3.3
Process	7	36	6
Services	5	16	2.7
Technology	4	24	4

Most frequent words	No. of exact and stemmed occurrences in responses to Q1	No. of stemmed occurrences through entire Interview—All questions	Average frequency across six questions
New	11	70	11.7
Improvement	6	18	3

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Several Notes on the Existential Hermeneutic Phenomenology for Project Management and Possibilities of Its Extension by Other Existential Concepts: Case Study From the Research Project Team

Michal Müller¹ and Lenka Jedličková²

Abstract

In this article, we follow up the approach of employing existential hermeneutic phenomenology (EHP) (Rolfe et al., 2016) published in *Project Management Journal*[®] and we show that this innovative method, useful in managerial self-development, represents an important tool for learning not only in the private sector, but also in public research projects where managerial skills are required. In this article, we propose an extended EHP framework that includes the original ideas of phenomenologists Fink and Patočka. We present the results of our interpretative phenomenological analysis study, where issues of communication and interpersonal relationships emerge as key problems in project work.

Keywords

existential perspective, lived managerial experience, qualitative research, self-development

Introduction

Managing project activities is an issue found not only in the private sector, but also relates to the public sector. In our article and case study based on qualitative research, we will focus on project management in academic research. As our empirical evidence suggests, based on interviews with academics within universities and smaller research projects, implementing the rules of project management is often problematic and seldom actually exists. The results of prior studies have shown that this situation is typical for national public research institutes (Coccia & Rolfo, 2009). Currently, there is an increasing amount of project-based funding for academic research (Raudla et al., 2015). At universities, and especially at faculties of arts and humanities, individual academics work very independently and individually, even though they are part of a team. The work done by these team members is mostly governed by an academic employee who acts as the principal researcher of the project. The employee obtains this position thanks to their competency in succeeding at the grant competition level, not necessarily as a result of managerial competencies. As Segal (2017, p. 472) points out, becoming a manager needs to go beyond classical managerial education and needs to be achieved through practice and lived experience. In the case of academic project managers, this route to becoming a manager is lacking

because these managers have not even gone through a system of classroom-based managerial education.

Communication is one of the key factors in the success of project activities, so project management and leadership skills are critical (see Burke & Barron, 2014; Muszyńska, 2017; Zulch, 2014). As the results of our study indicate, and as we will argue, communication barriers and interpersonal relationships represent the most common barrier, which opens up a wide domain for self-development. The academic project environment also faces other challenges that relate to societal changes described within a business environment. As Haas and Mortensen (2016) show, current teams are diverse, dispersed (e.g., geographically), digital (connected with virtual work, etc.), and dynamic (in the context of dealing with continual changes in membership). These facts lead to the need to pay

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more attention to articulating a compelling direction, building a strong team structure, creating a shared mindset, and providing support to individual team members (Haas & Mortensen, 2016, pp. 72–76). These characteristics also relate to research project teams that are often very interdisciplinary.

As a consequence of these influences, demanding conditions, and the pressure on efficiency, existential disruptions emerge as described in the studies by Rolfe et al. (2016, 2017). Academics are highly qualified employees with a positive attitude to learning. Based on a case study in this article, we will show that the approach of existential hermeneutic phenomenology (EHP) may be important for the self-development of both staff and managers in academia.

In the first part of this article, we summarize the foundations of EHP. In the second part of the article, we introduce an extended EHP framework that is enriched by the philosophy of Jan Patočka and Eugen Fink. This extension is based on connecting EHP with later existential-phenomenological approaches that critically deal with Heidegger's work (on which EHP is primarily based). We believe that although the Heideggerian concept is useful in recognizing important facts and can assist in the self-development of both managers and employees, it is not entirely sufficient in terms of interpersonal interactions. The third part presents the results of our qualitative case study in the academic environment of the research project team, which is based on our extended framework of EHP (Rolfe et al., 2017) and methodologically inspired by interpretative phenomenological analysis (IPA) (Smith et al., 2009).

Existential Hermeneutic Phenomenology

EHP is methodologically based on IPA, a qualitative approach to understanding personal lived experience and exploring how participants relate to this experience. An interpretative analysis was developed within health psychology. The method first appeared in an article by Smith (1996) published in *Psychology and Health*. However, the origins of this method have a long tradition within phenomenology and hermeneutics (see Smith et al., 2009, pp. 1–4). One of the key sources is represented by the phenomenology and hermeneutics of Martin Heidegger. Heidegger's philosophy is undoubtedly inspiring for many social sciences, and as Rolfe et al. (2016, p. 48) point out, philosophy—especially the philosophy of Martin Heidegger—also has significance for project management. In our opinion, Heidegger's followers have been successful in developing his existential analysis in a way that can better meet the needs of EHP. We will introduce these concepts in the following section.

The central themes of EHP represent existential disruptions. These disruptions are connected with state when habitual ways of doing tasks or traditional ways of work are threatened (i.e., disrupted). Assumptions are questioned and can no longer be taken for granted (Rolfe et al., 2016, p. 48, 2017, p. 740; Segal, 2014, p. 48). As Rolfe et al. (2017, p. 740) show, we can gain

access to lived experience through feelings of disruption. They do not consider this approach to accessing lived experience merely as a research method, but also as a very important competence in the practical wisdom of project management. It seems that the emergence of qualitative approaches (see, e.g., Belaid & Dakoumi Hamrouni, 2016; Cope, 2011; Mantere et al., 2013) is related to the fact that managers, in the context of fundamental changes in the workplace and the demanding work environment, need new stimuli to enable learning and self-development.

Rolfe et al. (2016, p. 50) claim that according to Heidegger, disruptions through the process of defamiliarization represent an existential experience. This means that disruptions extend to the entire being and are not limited to cognitive and intellectual activity. It becomes impossible to stand at a distance from the subject of research while using this method. This is what positivist science did, as Husserl (1965) criticized in his work. The characteristic of qualitative research is not focused on acquiring quantitative data and predictions, but rather the description, exploration, understanding, and interpretation of selected phenomena related to people's lives and experiences (Tuffour, 2017, p. 53).

The method of dialogue is crucial for EHP and IPA research. Data generated by this type of research and meanings of lived experiences are gained in dialogue between participant and researcher. Moreover, the participant can be seen as a "co-researcher" within these dialogues (Tuffour, 2017, p. 53). In addition—as will be argued in this article—dialogue is always carried out between two people who interact. This dialogue does not emerge only within research but in all other human activities. In short, being human is not an isolated existence, but is always a relationship.

An Extended Framework of Philosophy by Patočka and Fink

As has been mentioned earlier, Segal (2017) rightly describes the main idea that is key to becoming a manager and a human being—the relationship of the individual to the world:

The choice is always between becoming which is called, among other names, 'authenticity' and a withdrawal from becoming which is called bad faith or inauthenticity. Neither authenticity nor inauthenticity is moral but ontological notion. They shape the way in which managers are attuned to the world. An authentic attunement is one which is responsive to the temporality of managing and thus very sensitive to possibilities that emerge in situation. An inauthentic attitude is characterised by a psychological distance from the anticipatory uncertainties in being thrown into an unfamiliar world and thus is closed off and unresponsive to the possibilities of the situation. (Segal, 2017, p. 485)

Segal concludes that we "become" through action. This is based on existential philosophy (Kierkegaard, Heidegger,

Sartre) which, however, neglects one important aspect of being in the world, as we will see later. This is intersubjectivity.

Here, we see a central existential theme, that is, that both our identity and our concept of what we are doing develop in the context of action. Being is not an inner or intra-psychic identity but a way of being-in-the-world. It is not by pure thought that our thought—our philosophy of being a captain, a manager, a leader—develops. It is in the context of our actions that our thinking and philosophy develops. We become who we are, as Sartre (1948) describes, through the kinds of choices that we make. (Segal, 2017, p. 483)

This insight is crucial for our analysis. However, we think it would be better to refine it and anchor it in the ideas of Eugen Fink and Jan Patočka, prominent phenomenologists and direct followers of Edmund Husserl and Martin Heidegger. Fink (1969) and Patočka (1998) have pointed out that intersubjectivity represents the most important aspect of our relationship with the world, which is a fact that Husserl and Heidegger de facto neglect. According to their theory, Segal's idea could be reworded in the sense that we "become" not through action but through *interaction*.

Phenomenological analysis is based not only on the original method of Edmund Husserl, but also mainly on its application by another important phenomenologist—Martin Heidegger. Heidegger's existential analysis is undoubtedly key to the history of philosophy and other disciplines, but it still has its shortcomings. Most important is that it is a strongly individualistic conception. Human existence (*Dasein*) is like standing alone in the world. The loneliness of the human existence is mainly caused by the fact that the concept of *Dasein* is still seen as a "pure" subject (Heidegger makes the same mistakes he criticizes Husserl for—the isolated and poorly formulated position of the transcendental subject). *Dasein* chooses and schedules its own possibilities, gets out of "man" and falls into man again, understands, uses language, but "the second person" is conspicuously absent. The second person is simply assumed, yet does not appear as equivalent to the relationship, and is not constitutive or equally significant (ontologically or socially) as a subject. Heidegger (1978) partly deals with intersubjectivity—he formulates a constitutive feature of everydayness, being together "in the world," that is the substitutability of one's existence for others. But the term *Mit-sein* (possibly *Mittdasein* or *Miteinandersein*) does not fully describe a person as a truly social being. The second person is not constitutive for my own *Dasein*—it plays the same role.

His follower, another student of Husserl's, Eugen Fink, revises this conception by adding "the second person," which is meant not as a mere supplement, but as an essential and constitutive element of our existence. This gives the basic existentials (Heidegger's categories) a totally new dimension, and Fink aptly describes them as co-existentials. According to Fink (1965), man is not existence, but co-existence—a relationship (see Figure 1):

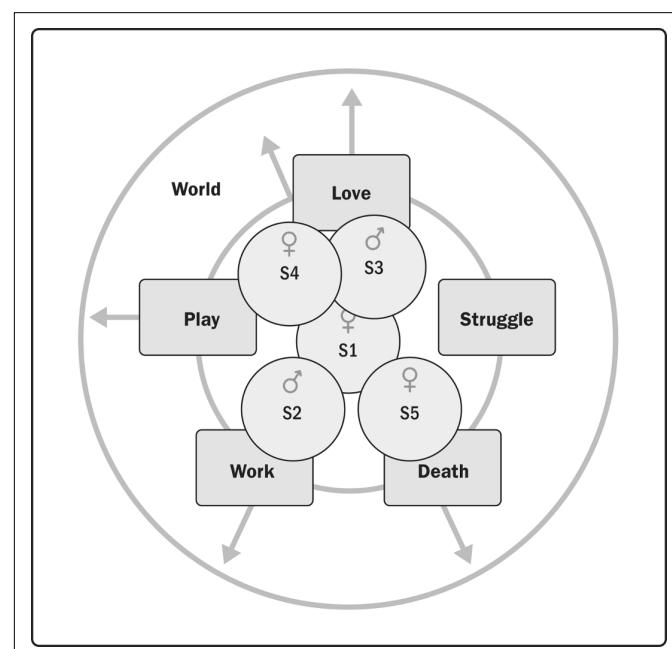


Figure 1. Man, as a co-existence—relationship. The figure shows that, according to Eugen Fink, individual (S1) is never isolated subject. She is always involved in relationships with other people (S2, S3, S4 ...) from which she cannot escape. This relates to all areas of human life (love, work, struggle, play, and death). In addition, Fink emphasizes that man must always be a man or a woman, not a neutral subject.

The co-existence structure of the human *Dasein* is multidimensional: in the areas of life, work, struggle, love and play—and in relation to the dead, people exist with, alongside, or opposing each other. These are not behaviours that can be empirically found, but they still belong to the "constitutionality" and "co-existence" of humanity. It is by no means an additional sociological state, a simple fact that may or may not be. Co-existence is as original as individuality, "society" is as much an a priori moment of *Dasein* as "I" [...] The other is no less than ego. [...] Man as such is always and at all times co-human. Co-existence is an ontological determination of *Dasein*. (p. 3)¹

Not only phenomenologists, but philosophers also generally forget another important aspect in analyzing the human existence. This is usually understood as a "pure," indeterminate subject. But man is always one of male or female, not merely a vague entity:

Man and woman are fragments of existence that are ontologically related. The idealistic interpretations of humanity transcend this elementary detachment and interdependence of two human sexes, ignoring the basic principles of co-existence. The "man" is always either male or female, with love as the basic phenomenon of residence. The question of what a human is can never be answered if the basic forms of co-existence are

ignored, which excludes the possibilities of how man and “co-man” get together. (Fink, 1965, p. 3)²

We believe that EHP should also be revised in this manner, because it is obvious that man is not isolated from others within the world, and therefore the existence of others must be taken into account. Dasein cannot be only existence—it must be understood as co-existence. We relate to the world through others. We do not have to take Fink’s conceptions of co-existence literally, but it is certain that love, work, struggle, play, and death are our everyday experiences and this fact can be employed as a basis for further analysis. We have also tried to show this in our case study.

We must not forget the others around us because we are made possible through them—we cannot work, fight, or love ourselves. We are always involved in relationships with others within these activities. These relationships influence us, and we cannot break away from them.

The environment of individual self-realization is not merely a constant nature, but also an environment of fellow human beings who bring their own designs, aspirations, and will-ends. [...] The Real Community is a daily plebiscite. (Fink, 1970, p. 1)³

The best-known Czech philosopher Jan Patočka, friend of Eugen Fink and follower of Husserl and Heidegger, was also a phenomenologist (and one of the founders of Charter 77, a document by the anti-Communist movement in the former Czechoslovakia). He formulated the original concept of the three fundamental movements of human life⁴ to correct the shortcomings of Heidegger’s existential analysis. The movement within his work is not understood in the sense of the physical movement of a being, as in the sense of Galileo, but in the context of the existential grasp of the world, in the Aristotelian sense of fulfilling possibilities and self-creation. This is a very important term in management that Segal (2017) calls “becoming.” Patočka names these three movements as: (1) the movement of acceptance, (2) the movement of defense, and (3) the movement of truth. According to Patočka, the total human movement (all three together) is what we call history. They are not separated but interconnected. There is a dialectic relationship between the three movements—they all assume and suppress each other (see Figure 2).

In the first movement, we are rooted into the world through the process of being accepted by others and being introduced into their world and traditions, but also through our corporeality. We have sensory contact with things; we physically handle

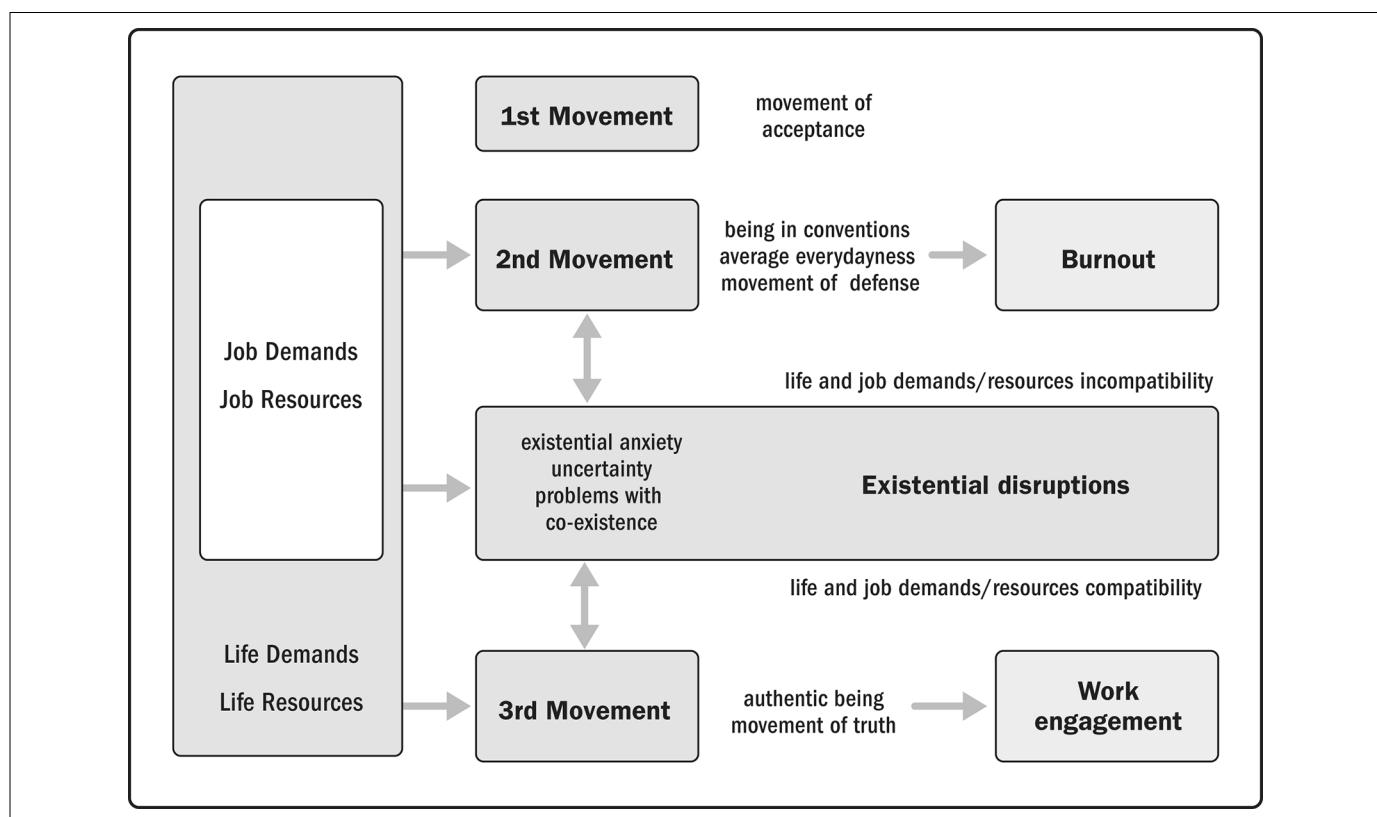


Figure 2. An interpretative framework based on Patočka’s three movements of existence. The schema illustrates three movements of existence in the context of existential disruptions and a simplified job demand-resource model that relates to burnout and work engagement (Bakker et al., 2004; Schaufeli & Bakker, 2010; Yang et al., 2018).

them. We gain orientation in the world, but this movement is determined by self-cover and original falsity. We are living in the first human micro-community, in our family.

The second movement Patočka calls the movement of defense, or self-extension, self-projection into things. It is the movement of work and struggle, reproducing our life with work, creating things, and self-reflection. According to Patočka (1998), it is an area of meaning, dimension of presence, mediocrity, anonymity, social roles, and where man is not himself, he is not a full-scale existence (existence that sees himself as existence), he is reduced to his role. Work humanizes the world and our lives. Moreover, everything is calculable, everything is business, but “the self” is missing.

The most important is the third movement. Patočka (1998) calls it the movement of truth or self-transcendence. The third movement puts the whole world and existence into play; man becomes historical. In this movement, man is not related through the world to the things in this world, but instead he relates to the world itself. This third movement tries to give an overall completion and meaning to the previous two movements. The first two movements are movements of the finite beings, which, however, are fully enjoyed in that finality, letting the earth rule over them. The third movement wants to break this rule of earth; man wants to shake it through this movement. It is done through detachment from individuality and awareness of one’s own finality. “It is not a will to dominate but an attempt to gain clarity concerning our situation, to accept the situation and, by that clarity, to transform it” (Patočka, 1998, p. 160).

As has already been mentioned, the third movement puts the whole of existence back into play, thanks to the specific sphere of phenomenon that is Polis. Polis is a sphere of interaction between people, the sphere of Polemos—this is where finality comes into play, now as what I can actively and freely dispose of. Unlike Heidegger, Patočka acknowledges the same status as one’s own Dasein. He is explicitly talking about a clash of equal individuals who create a community of shaking ones, because each of them is embarrassed by the others. Polis is the only place where the finality of human existence can be fully manifested, and also the problems related to it—freedom and responsibility.

Job demands and resources are completed by life demands and resources that also affect the behavior of the individual and are important for interpersonal relationships. Existential disruptions are seen as a border between the second and third movements. The potential relationship between existential disruptions and burnout research is discussed in the following section.

Nothing of the earlier life of acceptance remains in peace; all the pillars of the community, traditions, and myths, are equally shaken, as are all the answers that once preceded questions, the modest yet secure and soothing meaning, though not lost, is transformed. (Patočka, 1996, pp. 39–40)

In political (community) life, man opens himself up to his own possibilities and achieves them unimpeded, namely with awareness of threats, but in defiance of them. Human freedom, as seen, is tied to active risk management, coupled with the possibility of not being, with its own finality.

It is always an attempt to integrate into our lives what in the two earlier movements basically cannot be taken into consideration, cannot be seen, what must be overlooked and forgotten. That is first and foremost one of our basic boundary situations—our finitude. (Patočka, 1998, p. 160)

Without this knowledge, we cannot live authentically.

However, the important fact that Patočka observes and that is also illustrated in Figure 2, should be noted. Persistence in the third movement is never permanent. As a result of confronting various existential challenges, it is quite clear that the return to the second movement is often experienced. Therefore, it cannot be said that the relationship among Patočka’s three movements is linear. Rather, we can talk about cyclic or circular movement, and this cyclicity is a typical motive for various existential approaches.

For our study, this means that we focused on interpersonal interactions in the analysis and structured the questions in a way that these problems could manifest themselves, as shown in the next section.

Case Study by the Research Project Team

Background

The academic environment is very specific, because scientists are not only researchers they also perform managerial functions in various projects. Distinct from business managers, researchers face a more complicated task—they become managers without managerial education. In addition, many disciplines are based on individualistic work, especially in the humanities. These professionals are not used to regularly communicating with their colleagues within project work, particularly when they are overwhelmed with other obligations. This often complicates interpersonal relationships. This is one of the reasons why we believe it is necessary to extend the original concept of EHP. The importance of EHP can be seen not only in the re-description of the state related to managerial practice (although it is also important—Peter⁵ from our study realized that this concept of academic work was too idealistic), but also in establishing a dialogue with other people. Moreover, researchers themselves are also looking for ways to improve conditions in the academic environment, which was Peter’s motivation to cooperate in our research.

Method

Peter is a 35-year-old social scientist who has participated in several university-based research projects and one international

project. He is currently the chief person responsible for the outputs of the research project and is simultaneously working on a project related to completing his dissertation. Peter's participation in our research was voluntary and he agreed with all legal matters related to research and personal data protection.

All interviews, especially the interview used as the main basis for the following analysis, were conducted in Peter's office after the seminar in which Peter gives lectures. The interview questions were based on recommendations for IPA (Smith et al., 2009).

Analysis

The analysis of the interview is based on our extended EHP framework. Important passages from the interview are mentioned in Table 1.

The analysis is divided into several categories. Two important categories represent Patočka's second and third movements. The intermediate phase is the state of existential disruptions, connected with questioning assumptions (see Figure 2). In addition, articulating existential disruptions is understood in the context of problems with co-existence and analyzed within Fink's co-existentials (see Figure 1).

The Second Movement

Despite efforts to achieve the third movement—to recognize his values, Peter is caught in the second movement. The biggest crisis comes at the end of the week, when the daily routine "spits him out" into the weekend, which should be devoted to rest and loved ones, but he has a vision that he cannot rest. Instead, he is occupied by work on the project that leads to the frustration of loved ones who expect his attention and presence in interpersonal interactions, and also to his own frustration and the inability to concentrate on the tasks at hand (see Table 1, 1a–e, 2a–c, 13d–f).

Existential Anxiety and Disruptions

Peter is confronted with a completely new situation that does not match his established habits (see Table 1, 4a–c). His vision collapses (see Table 1, 7a–b), which affects both his mental and physical condition (see Table 1, 8a). His disruptions are characterized by the conflict between the awareness that he is able to finish his project, that he has skills and competences to be successful, and the unrealistic vision in the context of obstacles. This situation causes tension and extreme feelings (see Table 1, 10i).

Articulating Disruptions as Problems with Co-Existence

Interpersonal relationships are a very important area associated with existential disruptions (see Table 1, 9a–c), in the sense of obstacles to work, but also as barriers to personal life, when the usual established mechanisms and understanding of the world cease to be functional. It has already been said that the understanding of man as co-existence is important for our interpretation. Peter is struggling with the problems of a lonely revolt,

accompanied by his ideals and high demands on his work performance. He has a clear idea of his own identity (see Table 1, 26g–j), which has thus far been successful, but is now confronted with his first failures—especially in the field of research projects (see Table 1, 4a–c).

Peter finds project work a very isolating activity. Communication with colleagues fails due to time constraints and a fear of raising issues (see Table 1, 14a–b, 15a–b). Communication with other social scientists is no better (see Table 1, 12a–c). He lacks support. Despite a strong vision of identity with social scientists, he does not believe it is possible to hold a career in the humanities (see Table 1, 3a–c). General public opinion largely influences our work and our assessment of our activities. Collective awareness of the usefulness/uselessness of an activity can be a decisive factor for our feelings, because if we feel that "society" evaluates our work as useless or of little social benefit, we can seldom positively evaluate even the best results of our work.

Peter faces the fact that he is dependent not only on the people around him—those with whom he has a direct relationship (partners, family, colleagues, supervisors, etc.)—but also on people with whom he has nothing in common and has never met. Paradoxically, these "foreign" people often shape and influence our lives to a greater extent than our loved ones. Yet, it is still a kind of co-existence (see Table 1, 5a–f). At the same time, he perceives the paradoxical situation in roles—he becomes a project manager, although he is not formally a leader (see Table 1, 20a–e).

Several times Peter expresses the impossibility of breaking out of "co-existence" and the relationship with others that shape and influence our lives more than ourselves and our own decisions. He feels that if there were no other people—if he were an isolated existence—he would have more freedom in decision making and could achieve better results in his work. The aspect of co-existence is lacking—support from others, collaboration leading to greater success, and professional growth. The question is whether these assumptions are really lacking, or Peter simply cannot see them. He explicitly says that everything is clear for him, but there are "external demands and reality" that are against him (see Table 1, 18a–b). This term is merely another name for "other people." They decide that, despite our individual choices and how we rank our values and plans, we do things differently than we intended. This again leads to frustration. Theoretically, he is able to finish the job, but he can't do it for the sake of immersion in everyday life. This is literally Heidegger's (1978) term, falling into everyday life, into "man." This makes it impossible for Peter to not only look at his entire situation from a distance, but it also paralyzes him (see Table 1, 1a–e, 2a–c). Patočka (1998) also talks about everyday life, stereotypical work, which is done only for the work itself (this includes all other daily activities, both mechanical and anonymous). A breakthrough is necessary, and he must get back to his original motivations and goals that he set up long before the project (knowledge, truth, effort to understand the world we live in), which means not to be absorbed by daily routine, but to get out of it.

Table 1. Emerging Themes in IPA Research Divided Into Categories According to an Extended EHP Framework (Line Number Refers to the Comments in the Text)

Emerging Themes	Original Transcript	Line
Second movement		
<i>Being in convention</i>	I ask if I am really in a situation that makes it possible to work on it [project work] because the common everyday life, the everyday rush, is just so intense that I get to write it [monography as result of research] on Saturday and maybe also for a little while on Sunday, then I have to prepare for teaching.	1a b c d e
	So, at this moment, for the last few weeks, especially on a Friday, as I like to say, it spits me out at the end of that Friday, and I'm useless; I cannot do anything.	2a b c
Existential anxiety—disruptions		
<i>Uncertainty</i>	We face a massive campaign that careers in our fields of interest [social sciences] do not exist, that it is fiction to think that we will find employment in something like that.	3a b c
	Until recently, I have never experienced criticism, but rather everyone was satisfied that I was finishing my work on time and to the proper quality ... This current state is new to me.	4a b c
	The project was a big hope ... The fundamental problem of the project was that we asked for a certain amount of money that we did not receive. We actually received half the money for the same output. ... The reviewer doubted the possibility of doing this work in a year; he said he didn't trust us. And even more absurd is that they reduced our finances by half. I still don't understand that.	5a b c d e f
	I do extra work I like, for example I teach a seminar ... So, to some extent, I am responsible for the time chaos I currently experience.	6a b
<i>Anxiety</i>	Suddenly only ruins remained of my vision and there was a big question mark on what to do next.	7a b
	I am really mentally but I think also physically, dragged down.	8a
<i>Disruptions</i>	I realize that when something is bothering me ... it becomes a missed opportunity to write a good text and then this failure breaks my relationships.	9a b c
	So, I came to the point where I thought: Is this real? And after yet another unsuccessful day, it was confirmation that it was unrealistic. Such feelings of personal failure, when I have the feeling that I am not able to move on, even if I have the vision that it is possible. The vision is there. I have the texts sorted, I have them chronologically arranged, I have them read, commented, I could do it, but I am not able to crack it; I'm not able to move on realistically or visibly. And at the moment when I move at least a little bit, optimism will appear, I finish one part that my colleague can then start working on it. These are probably extreme feelings. Maybe even the organism already says that it needs the positivity, so it just creates it.	10a b c d e f g h i j k
Articulating disruptions as problems with co-existence		
<i>Work</i>	I have never experienced a leader or colleague or anyone competent to say "be optimistic, look to the future in a better light."	11a b
	I tried to partially consult it [research activities] with one associate professor and one professor from Berlin, but the communication was very bad; although they wrote back to me, it wasn't relevant to me.	12a b c
	It breaks relationships with my supervisor, but in addition, as I try to do something about that, it means I invest all my free time to writing project outputs; it has negative effects on my girlfriend's relationship with me. I think that she is also fed up with that ... And it complicates relations between people, between loved ones [direct interconnection with the category of love].	13a b c d e f

(Continued)

Table I. Continued

Emerging Themes	Original Transcript	Line
	The relationship with colleagues is one of the pitfalls of the whole project ... We don't have many opportunities to communicate.	14a b
	It is simply a problem of communication in a moment of not being completely open and a problem of tension with the terms that have simply been set unhappily.	15a b c
	In my second job, my evaluation of my work is abnormally positive; for that year, I did not receive a single criticism, all of my colleagues were completely excited about my work ... I think the job could have been done even a third better if I had had time to do it.	16a b c d
Struggle	My vision was to connect two projects and get enough financial resources to complete the dissertation. And this vision, which has not been fulfilled in many ways, is what I am currently fighting with.	17a b c
	I probably have values defined, but the other thing is reality. These are the external circumstances or external demands on me.	18a b
	Because if it were up to me and I did not have this project, I would probably be willing to stop the dissertation project for some time.	19a b
Play	I could not formally be a chief researcher ... It is a paradox because chief researcher has a substantially smaller role in managing the outputs of a project. So, I am actually managing something that is formally headed by a chief researcher and therefore I do not have access to many things, which then makes another mess.	20a b c d e
	There's a question if this wasn't the moment when I should act as an authority ... and say, we simply will not do that [the project].	21a b
Love	With respect to my long-term girlfriend and family circumstances, I had no choice and I had to take another job. "I'm your roommate," she told me yesterday. And I don't want to feel that way. But I have no time [in the schedule] to put her [in] anymore. And yet, we're planning a wedding, which is a positive thing, but a lot of planning, organizing, telephoning ...	22a b c d e f
Death	If I wanted to create a catastrophic scenario, or if I could think of even more catastrophic, maybe a serious illness is probably missing.	23a b c
Third movement		
Questioning assumptions	Is it really necessary to create psychological pressure on myself to create something?	24a b
Redescription	So, I realize the project's gap, the gap of the project's concept. I just understand that some rules must be set [rules of the project commission that will evaluate project]. But when I try (or I hope I would be successful) to convince someone of the absurdity of this situation, or respectively those deadlines, I really do not understand why to cling to them [rules and deadlines] and why to make a fuss.	25a b c d e f
Toward liberation	At the same time, I am getting into absurd situations, maybe it is good, in the end. When I do something for the school—the popularization of things at the lowest level, for children, explaining even more complex things for children, thinking how to convey values to them, and also show it to ten-year-olds, but on the other hand, I'm starting to read only for myself. I'm not going to write anything about it or tell it to anyone. It is my vision of a universal humanity scholar. I have this vision and I always said that I have nothing else in the world than education, or somebody says cleverness, it's such a bad word, but it is the field in which I am competent—the humanities. So, for me, this is the essential identity.	26a b c d e f g h i j k

An interesting concept is related corporeality (see Table 1, 10j-k), which Heidegger discusses only briefly. It is Patočka (1998) who fully and by necessity incorporates it into the whole of our existence, into the situation in which we exist (just by being physical, we have certain limitations, always a certain perspective of the world).

The Third Movement

The identity of the intellectual, which is related to all of Peter's work and study life, is still essential for him (see Table 1, line 26g). However, this identity is not recognized by contemporary society because it is not calculable (Patočka, 2002) (Peter asks directly: "Why study something so unnecessary, from which you have no economic benefit and yet no one understands it?"); it has no value in the labour market, no one appreciates it, it is even a derision. In addition, this identity is overlaid by the daily routine of work and relationships with other people, for whom it is also not important (they do not want to have an intellectual but a partner, a colleague, etc.), they do not need him as a whole man, but they need him only in his roles. They are actually trying to imprison him in that second movement, while he is trying to find some higher sense of it, to interconnect it and understand it. And that is the crisis. The positive aspect is that he perceives these complex—even absurd—experiences positively⁶ (see Table 1, line 26a). The whole situation opens up new possibilities for him. He can use them to create values that he wants to pass on to future generations (see Table 1, line 26d-e). It is a situation from which he can learn. However, full liberation has yet to come through a leap into interpersonal interactions that will enable him to openly share his vision, communicate problems, and support the questioning of the habitual doing of things (see Rolfe et al., 2017).

Implications for Further Research

Besides developing an extended framework of EHP, which is the main aim of this study, an interesting topic that can be influential for further research emerges. Our study supports the basic qualitative differences between the condition associated with existential disruptions and burnout. While burnout is characterized in the literature through cynicism, dehumanized perception of others, negative self-evaluation, or paralyzing by conditions (Maslach & Jackson, 1981; Maslach et al., 2001), the state of existential disruptions is different. It can be stated that despite the difficulties of our participant, he can see the vision and positive aspects of work and his perception of others, like his students, for example, is not dehumanized. He is also aware of his previous successes and does not see himself in a totally negative light, rather he is confronted with his first project failure. Awareness of the absurdity of job demands and resources does not lead to permanent paralysis.

Considering the preliminary results, it seems interesting to analyze the emergence of burnout in the context of the job demand-resource model, which can be extended by the findings related to existential disruptions (Rolfe et al., 2016, 2017). The

classic job demand-resource model, based on the work of Demerouti et al. (2001), explores the relationship between job characteristics and burnout in the context of two basic dimensions, job demand and job resources. Burnout is a consequence of excessive demands in the absence of resources. These requirements can take on physical, psychological, or societal forms and cover a variety of job characteristics, such as workload, conflict of roles, and so forth. Resources are made up of mental, physical, and social resources, and are linked to a range of support from the organization or executives (Bakker et al., 2004; Demerouti et al., 2001; Schaufeli & Bakker, 2010; Yang et al., 2018).

As mentioned, burnout is a negative consequence of various factors. By contrast, existential disruptions also reflect a positive aspect, such as opening up new possibilities. Even existential disruptions relate to very mentally demanding situations, which if not resolved, can lead to conditions whose characteristics correspond to the description of burnout. As the symptoms of burnout syndrome are the result of prolonged exposure to various factors, it is important that burnout prevention is implemented at an early stage in the problem, which will be decisive for further mental development. This phase can be characterized by existential disruptions.

As indicated, existential disruptions and burnout relate to different qualitative situations. Existential disruptions may or may not occur in managerial or work experience. If these situations occur, it depends on how they are handled. Existential disruptions can be considered as a pre-phase of burnout. This phase is characterized by a potential increase in the incompatibility of demands and resources related to work caused by uncertainty and anxiety, but also by several positive aspects that can lead to self-development. Moreover, as Müller (2019) points out, there are similarities between strategies of burnout prevention and recommendations derived from EHP research.

Discussion

Research like this is important from a social point of view. It points to problems and obstacles that hinder the workplace from creating the conditions for learning managerial skills—becoming a manager. Such conditions are primarily interpersonal relationships and an environment where interpersonal dialogue can be maintained. Our EHP/IPA research supports the idea that qualitative research can be a dialogic process of learning (Corlett, 2012, p. 457). In this respect, the researcher encourages participant learning, at least in the way that through the dialogic process the participant reflects their fundamental problems in project management. This fact corresponds to a large extent to the understanding of learning described by Cunliffe (2002, p. 36), who points out that learning can be reworked as "an embodied, relational-responsive process," and that during this process, we are "struck" and also "moved to change our ways of being, talking and acting." The specificity of EHP/IPA research is that the entire dialogic process is aimed at uncovering existential disruptions in managerial practice, which represents significant striking

moments per se. In this dialogue process, both researcher and participant are shaken by the description of a disrupted practice that relates to states of being. This emotional response leading to a reflective view of work and project management can also be triggered by other people who are confronted with a similar situation—or at least stimulate the discussion of obstacles in practice. In this context, it is important to mention that the participant who shared his lived experience in our research considered this conversation not only as a way for self-development, but also a chance for changing the conditions and opening new perspectives for other colleagues.

The importance of interpersonal relationships, which in our research emerges as a substantially important topic, is increasingly being discussed in the context of managerial self-development, managerial learning, and knowledge sharing. Mazari et al. (2014, p. 2051) in emphasizing the importance of social skills recall that management can be characterized as “doing the work through others,” which directly refers to the importance of interpersonal skills. Organizations as a social phenomenon that is related to its interpersonal relationships are traditionally considered within the humanistic perspective that goes beyond understanding an organization as a set of contracts or hierarchies (Pirson & Steckler, 2018, p. 31). In addition to humanistic approaches in the 1960s, existentially oriented criticisms of the positivist approach to management emerge (Odiorne, 1966). Today, with the new challenges faced by managers, there is a search for inspiration in these existentially oriented approaches that consider managers and employees as complete human beings (Bolle, 2006; Kelly & Kelly, 1998; Rolfe et al., 2016, 2017; Segal, 2010, 2014). Social processes within organizations are crucial for sharing knowledge (Easterby-Smith & Prieto, 2008, p. 241). Philosophical approaches that put stress on managers as human beings characterized by existential dimensions related to their being in the world seem to be important tools for self-development and analysis of determinants that influence the process of becoming a manager. As our study suggests, especially in project management research, these approaches can be important for managerial learning, as managerial education is insufficient in the public sector. We believe that further qualitative research of lived managerial experience will provide valuable data for understanding the existential dimensions of managerial work.

Conclusion

In this article, we have shown that EHP can be extended by other existential concepts, especially those based on the thoughts of Fink and Patočka. The reason is that these concepts include, in contrast to the original Heideggerian perspective, one important element that should be taken into account—social relationships and intersubjectivity. We have tried to show that this fact has fundamental importance not only in our case study, but also for the process of becoming a project manager.

Social relationships and interactions with others are also important in situations when it is necessary to face existential

disruptions and burnout, because these disrupted states are related to insufficient or even completely absent communication among people. As we have pointed out, the approach of EHP may be important for self-development of staff and managers in academia where project managers have very often never undergone managerial training.

Interactions and relationships among people are crucial not only for performance within managerial practice but also for the process of becoming a manager. In the same way, interaction in the forms of negotiation and conversation is necessary to solve existential disruptions. And it is important to realize that both the researcher and the interviewee form a situation in which they interact with each other (e.g., by asking questions) and deconstruct uncertainty to open new possibilities and perspectives for self-development. Of course, we cannot forget that becoming a manager also affects one’s relationship to the world, as Segal points out (Segal, 2017). But even this relationship to the world is always influenced by the relationship to the others. These cannot be ignored in any respect, in any situation.

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Notes

1. Quotes from Eugen Fink’s work are our own translations from the German original. (In original: “Die Coexistenzstruktur des menschlichen Daseins ist mehrdimensional: in den Lebensfeldern der Arbeit, des Kampfes, der Liebe, des Spiels—and im Verhältnis zu den Toten sind die Menschen mit-, neben-, für- und gegen-einander existent. Und das sind keine Verhaltensweisen, die empirisch abgelesen sind, zur Verfassung des Menschentums als solchen gehört die ‘Mitmenschlichkeit.’ Keineswegs ist sie ein nachträglicher soziologischer Befund, eine bloße Tatsache, die ebenso gut auch nicht sein könnte. Die Coexistenz ist so ursprünglich, wie die Individualität, die ‘Gemeinschaft’ ebenso ein apriorisches Daseinsmoment wie das ‘Ich’ … Der Andere ist nicht später als das Ego … Der Mensch ist als solcher immer und alle Zeit Mit-Mensch. Die Mitmenschlichkeit ist eine ontologische Bestimmung des Daseins.”)

2. In original: "Man und Weib sind Existenzfragmente, die ontologisch zusammengehören. Idealistische Interpretationen des Menschentums überspringen diese elementare Zerrissenheit und wechselseitige Angewiesenheit der beiden menschlichen Geschlechter, übersehen die fundamentalen Grundzüge der Co-Existenz. "Der" Mensch ist immer entweder Mann oder Weib,—die Liebe bildet ein Grundphänomen des Daseins. Die Frage, was der Mensch sei, lässt sich nie beantworten, wenn man absieht von den Grundformen der Co-Existenz, absieht von den Möglichkeiten, wie Mensch und Mitmensch sich gesellen."
3. In original: "Die Umwelt individueller Selbstwirklichung ist nicht bloß eine konstante Natur, sondern auch eine Umwelt von Mitmenschen, die ihre eigenen Entwürfe, Strebungen und Willensziele mitbringen. ... Die Wirkliche Gemeinschaft ist ein tägliches Plebisitz."
4. Patočka develops this concept mainly in his books *Heretical Essays* (Patočka, 1996) and *Body, Community, Language, World* (Patočka, 1998). Patočka drew the inspiration for this theory in work by Aristotle, Hannah Arendt, and Martin Heidegger.
5. Peter is not the real name. We chose the name Peter to ensure the full anonymity of our participant.
6. The positive aspect of (existential) anxiety appears not only in work by Heidegger (1978), but also in Patočka (2002). This state is a moment that shakes our present values and the established routine of the second movement of existence (Patočka, 1998). Segal also points to the positive aspects of anxiety (2017, p. 476): "Anxiety involves a simultaneous experience of excitement and dread, experiences of being simultaneously enticed but afraid of the unfamiliarity of possibility."
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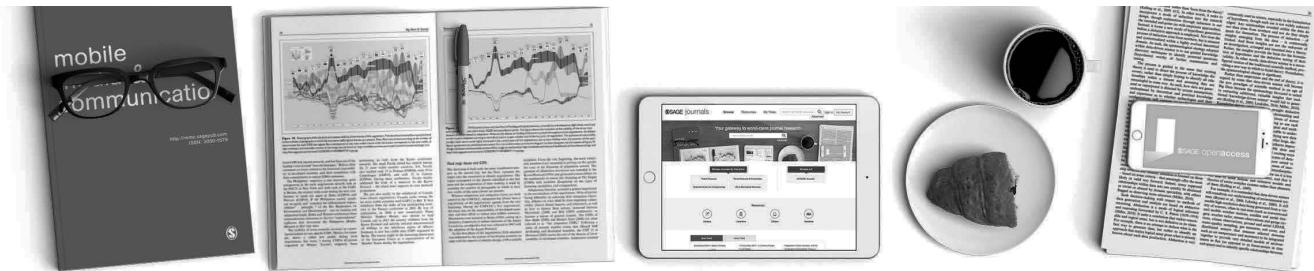
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