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International Journal of Managing Projects in Business

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Entrepreneurship and project management relationships

So far so good? Dialogic conversation and Luhmannian perspective

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Abstract

Purpose – Both project investments and entrepreneurial ventures are considered powerful catalysts of economic prosperity and social progress. But these ventures and investments come with their inherent challenges and risks. Observing this situation, academics have paid close attention to the fields of entrepreneurship and project management (E&PM). Thus, for over 30 years, the two fields have witnessed remarkable developments among management and organization studies. The historical perspective reveals that these two multidisciplinary fields were built in parallel, on very distinct mindsets and cultures. The purpose of this paper is to offer a wider dialogic conversation between two distinct perspectives and related propositions: E&PM should stay separated; and E&PM should converge.

Design/methodology/approach – In order to guide the investigation of these propositions, the authors call for Luhmann and a systemic-discursive perspective of both fields discourses. Ultimately, the purpose is to contribute to the debate surrounding the following questions: are E&PM fields so far from each other, and thus, irreconcilable? And, if so, is it so good?

Findings – Finally, the authors will suggest that E&PM may stay far from each other as they do not share similar discourses and codes. This may be a good state of affairs, however, as distance generates a fruitful creative tension between them.

Originality/value – While many researchers focus on linking E&PM, arguing that they largely agree as to their underlying goal, the paper aims to offer a wider dialogical conversation between the two distinct perspectives and their related propositions: E&PM should stay separate; and E&PM should converge. In order to do so, this paper calls for a Luhmannian and a systemic-discursive perspective.

Keywords Luhmann, Entrepreneurship, Project management, Discourse, Epistemology

Paper type Research paper

Introduction

Both project investments and entrepreneurial ventures are considered to be powerful catalysts of economic prosperity and social progress both at micro and macro levels. However, these ventures and investments come with their inherent challenges and risks. Indeed, they both "involve 'projection in the future' and therefore possibility of deliberation (and decision making) about the future (plan), choice of means towards ends" (Bredillet, 2013, p. 64); and "because action takes place over time, and because the future is unknowable, action is inherently uncertain" (Von Mises, 1949; Bredillet, 2013, p. 68).

Considering project investments, more than 25 percent of global economic activity appears in the form of projects, and in some emerging economies, this exceeds 35 percent. For instance, World Development Indicators data from 2015[1] show that 24 percent of the world's $75 trillion gross domestic product is gross capital formation[2], which is almost entirely project based. In the meantime, only 62 percent of projects meet original goals/business intent, 53 percent are completed within original budgets, 49 percent are completed on time, 45 percent experience scope creep, 32 percent encounter budget loss and 16 percent

are deemed failures (Project Management Institute, 2016, p. 5). As stated by the Project Management Institute (2017, p. 2) report "Organizations are wasting an average of $97 million for every $1 billion invested, due to poor project performance."

A recent report from the Global Commission on the Economy and Climate (2016) stated that "[a]bout US$90 trillion in infrastructure investment is needed globally by 2030 to achieve global growth expectations, particularly in developing countries. To achieve this, infrastructure investment needs to be both scaled up, and, due to climate risk, integrate climate objectives[3]," while the G20-backed Global Infrastructure Hub (GIH) (2015) expressed the following concerns: "Nearly a fifth of the $94 trillion in global infrastructure investment needed by 2040 risks being unfunded if current spending trends continue[4]." Likewise, a Global Infrastructure Hub report reads: "To close the spending gap, annual infrastructure spending needs to rise to 3.5 percent from 3 percent of global gross domestic product[5]." Project management (PM) researchers address the challenges associated with projects through various lenses and schools of thought (Turner *et al.*, 2013; Flyvbjerg, 2017), thereby ultimately seeking to increase their chances of success. This ultimate ambition is well highlighted in the Association for Project Management (APM) vision: "APM's vision is ambitious, challenging and radical. We recognize that to deliver it we need to inspire everyone to create 'a world in which all projects succeed with Project Management as a life skill for all[6].'"

Examining the entrepreneurial perspective, and seeking to overcome the challenges set forth, theorists have highlighted a number of connections. A historical study of 161 American SMEs by Covin and Slevin (1989) has established a correlation between an entrepreneurial posture and an organic structure. Team projects represent the archetypes of innovative structure for established firms, as this structure helps them redefining or rejuvenating themselves, their positions within markets and industries, or the competitive arenas in which they are placed. Those two literature streams have shared a common label: corporate entrepreneurship (Covin and Miles, 1999, p. 47). However, the rules of the game have changed with the arrival of new kinds of firms, that is, start-ups, which put forward original ways to work together. Today the subject of interest is management of start-up development (Midler and Silberzahn, 2008). Is it possible to use PM methods in the creation of a start-up business plan? (Kiznyte *et al.*, 2016).

At this point, we need to define the concepts of PM, Project and entrepreneurship as they will be used in this paper.

There are several definitions of PM, each of them showing the subject through a different lens. If we consider the widely used Project Management Institute (2013) resource-based definition: "Project Management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements" (p. 4), and a project being defined as "a temporary endeavor undertaken to create a unique product, service, or result" (p. 3). On the other hand, the APM encompasses a process-oriented definition: "Project Management is the application of processes, methods, knowledge, skills and experience to achieve the project objectives"; "[a] project is a unique, transient endeavor, undertaken to achieve planned objectives, which could be defined in terms of outputs, outcomes or benefits. A project is usually deemed to be a success if it achieves the objectives according to their acceptance criteria, within an agreed timescale and budget (see footnote 6)."

In regards to entrepreneurship, we adopt the generally accepted definition of this notion as a set of processes for discovering and exploiting business opportunities:

> We define the field of Entrepreneurship as the scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited (Venkataraman, 1997). Consequently, the field involves the study of sources of opportunities; the processes of discovery, evaluation, and exploitation of opportunities; and the set of individuals who discover, evaluate, and exploit them (Shane and Venkataraman, 2000, p. 218).

However, our paper is based on a broader understanding of entrepreneurship, emphasizing the fact that entrepreneurial acts may also occur in existing organizations (e.g. takeover or franchising), including public authorities and voluntary associations.

Consequently, entrepreneurship and project management (E&PM) receive more and more interest and support from a wide variety of horizons. Observing this situation, characterized by a high failure rate and growing socio-economic consequences, academics have paid close attention to E&PM, trying to address the perceived dissatisfaction, and offer possible explanations as well as ways toward improvements and higher success. Thus, for over 30 years, the two multidisciplinary fields have witnessed remarkable developments among management and organization studies. The historical perspective reveals that they were built in parallel, and on significantly different mindsets and cultures (Fouché, 2011). However, the two disciplines aim at a similar endeavor, that is, the transformation of abstract ideas into materialized organizations and delivered benefits. In addition, some authors emphasize that "in real practice, the connections between entrepreneurship and project practice appear stronger," and thus call for linking the two "segregated communities" (Kuura *et al.*, 2014, p. 214).

Analyzing the link between the two fields through scientometric approach, Fouché (2011, p. 328) concludes that there is a clearly observable divergence, and that:

> […] beyond a common belonging to Management sciences, Entrepreneurship and Project Management are actually not converging at the academic level. It is even sensible that with time, the disciplines tend to share less and less research drivers. It is consistent with the efforts achieved by the two scholarly communities to develop a mature research, ever more unified if possible (Fouché, 2011, p. 10).

While many researchers focus on linking E&PM, arguing that they largely agree as to their underlying goal (Bröckling, 2016; DeFillippi and Spring, 2004; Frederiksen and Davies, 2008; Kuura *et al.*, 2014; Lindgren and Packendorff, 2003; Lundin *et al.*, 2015), we aim to offer a wider dialogical conversation between the two distinct perspectives and their related propositions:

P1. E&PM should stay separate.

P2. E&PM should converge.

What do we mean by dialogic conversation?
The noun conversation means etymologically "living together," "act of living with[7]." Indeed, our purpose is to offer a conversation between two diametrically opposite perspectives. Furthermore, we acknowledge this conversation as being dialogic:

> The term dialogic is frequently appropriated to a modernist framework of assumptions, in particular the […] sociocultural tradition. […] From a dialogic perspective, the difference between voices in dialogue is constitutive of meaning in such a way that it makes no sense to imagine "overcoming" this difference. By contrast, due to the implicit assumption that meaning is ultimately grounded on identity rather than upon difference, the dialectic perspective […] interprets differences as "contradictions" that need to be overcome or transcended (Wegerif, 2008, p. 347).

Furthermore, organizational life is dialogic in essence. In entrepreneurship, this concept is applied to describe the complex relationship between the firm and the entrepreneur: "[Bruyat's] strong idea, borrowed from Edgar Morin (1984), is that […] dialogics (entrepreneur/enterprise) are joined as a whole in a unity" (Fonrouge, 2002, p. 149; our translation; see also Bruyat, 1994). Unlike a dialectic process, a dialogic one often does not lead to closure and remain unresolved. Thus, dialog can be less competitive, and more suitable when aiming cooperation between parties: in a dialogic process, various approaches coexist and are comparatively existential and relativistic in their interaction.

Ultimately, our purpose is to contribute to the debate surrounding the following questions:

Are entrepreneurship and project management fields *so far* from each other and thus, irreconcilable?

If yes, is it *so good*?

To quote Joseph Joubert (1850), a French Moralist and Essayist: "It is better to debate a question without settling it than to settle a question without debating it" (p. 10).

The conversation we wish to provide as an attempt answer to these questions is organized in four sections. The first provides a brief overview of our underlying theoretical framework. The two following sections present the arguments supporting each proposition. In the last section, we discuss and suggest areas where divergence and convergence seem to be relevant, and what the implications are for the research fields concerned (Fiol, 2001).

Luhmann 101

First, we focus on the two research fields (Kuura *et al.*, 2014, p. 223), as well as on the communication and related discourses, in a "systemic-discursive perspective" – as Seidl (2007, p. 199) coined it – within and between both fields (Bröckling, 2016). Both E&PM can be defined as research fields. For Audet and Malouin (1986), a field is "the space occupied by the whole of the people who claim to produce knowledge in this field, and this space is also a system of relationships between these people competing to gain control over the definition of the conditions and the rules of production of knowledge" (p. 42). For instance, we have shown that PM is a recognizable research and knowledge field (Bredillet, 2010, p. 4).

Second, we root our argument in a Luhmannian framework. Luhmann is a Social Theorist, Organization Theorist and System Thinker rather than a sociologist *per se* (Seidl and Mormann, 2014). This paper draws on Luhmann's work on autopoietic social systems, and on Seidl systemic-discursive perspective, grounded on Luhmann's work (Seidl *et al.*, 2005, Seidl, 2007).

The following conversation is based on the observation of the two fields: E&PM. According to Luhmann's discussion of observation and distinction:

Drawing on Spencer Brown's (1969) calculus of distinctions, Luhmann unfolds this basic idea. According to this calculus, observation can be conceptualized as distinction and indication: every observation draws a distinction in the world (e.g. between primary numbers and all other numbers) and indicates the side it wants to observe (e.g. the primary numbers). That is to say, the observer has to focus on one side while neglecting the other. It is not possible to focus on both sides simultaneously. In this way, the relation of the two sides to each other is made asymmetrical; the observation creates a "marked side" (the observed one) and an "unmarked side" (the unobserved one) (Seidl and Becker, 2005, p. 13).

Therefore, there is no middle ground between the two above-mentioned propositions. Each of the fields is, in a Luhmannian perspective, an autonomous discourse, i.e. an autopoietic communication system relying on different codes, "according to which its communications are meaningful" (Seidl, 2007, p. 202).

Each discourse conveys a specific worldview. E&PM, as fields, are conveying two different worldviews, rooted in two different finalities; indeed, their ends are different: PM finality is about making the project "dying," whereas entrepreneurship is about "giving birth" and "developing." These fields are interdependent in some way. Indeed, the interdependence or mutual stimulation of two operationally closed discourses can be described as structural coupling (Seidl, 2007, p. 209; Luhmann, 1992, pp. 1418-1419). However, according to Seidl:

[b]ecause of the incommensurability of the different [discourses], [fields] *cannot draw on any general* [E&PM] *concepts. Instead, any concept used within a particular* [field] *has to be understood as the* [field]*'s own construct. Concepts developed and propagated in other discourses can stimulate* [fields] *to develop their own* [E&PM] *concepts in response, but they can never enter the* [field] *as such*

(Luhmann, 2000, 2005*). Consequently, what appears as the adoption of a general* [E&PM] *concept would have to be treated as an illusion – a productive misunderstanding – based on the fact that* [fields] *use the same labels, or sets of labels, for their own constructs* (Seidl, 2007, p. 206; text into […] is modified by the authors).

Thus, the circulation and transmission of general concepts between fields occurs because of this structural coupling (Seidl, 2007, p. 210). We should note that structural coupling does not involve "tension" or "competition" and our purpose is not to argue in favor of one or the other proposition – which would stand in contradiction with the dialogical approach, but rather to highlight, in a Luhmannian perspective, that advocating for a "convergence" involves much more than relying on similar labels. This leads us to question the role of observation in performing distinctions and indications, the "codes" of the discourses, the shared labels and their role in productive misunderstanding (Seidl, 2007, p. 206; Teubner, 2000, p. 408), as well as structural coupling.

As a matter of consequence, for this paper, schools, tracks, subdivisions or components within a field, and whatever the level of relation between them, are part of the same autopoietic communication system, i.e. of the same discourse with its own logic. However, when the logics – i.e. the "codes" – differ, we can conceptualize the field as an ecology of discourses, the different discourses within the field being "both autonomous and highly interdependent at the same time" and co-evolving (Seidl, 2007, p. 209).

We are not looking for synthesis or consensus, but rather, we aim at tentatively highlighting the underlying reasons supporting the two propositions and suggesting possible avenues for productive misunderstanding to occur between the two fields and their "structural coupling" (Luhmann, 1995, cited by Seidl, 2007, p. 209). Lastly, despite a focus on the two research fields, our discussion may touch on practice, especially while talking about some shared "labels" between the two disciplines (Nicolai, 2004, p. 955).

P1. E&PM should stay separated because of the existence of two distinct discourses

Considering the richness and inherent complexity of a research field, it seems relevant to focus on discourses and narratives held within the field in question, and to look at the "stories" told within the field to construct meaning out of them and gain a full picture of the field's line of thought (Tsoukas and Hatch, 2001).

Typically, this kind of study allows the unveiling of various schools of thought within a field. Both in E&PM (see Bredillet, 2010; Turner *et al.*, 2013; Fonrouge, 1999) several typologies have been suggested sometimes in agreement, sometimes not (see Table I).

Unlike PM, entrepreneurship is beyond the field in management studies (Huang and Knight, 2017). The reason is because, historically, literature on entrepreneurship mainly builds on authors in the fields of economy, psychology and sociology.

The foundation of our argument, based on a Luhmannian perspective (Luhmann, 1989, 1995, 2005), is that a research field is a self-reproducing social system. This leads us to adopt the notion of systemic-discursive perspective (Seidl, 2007, p. 199), and to apprehend a given research field as an operationally closed autopoietic communication system (Hernes and Bakken, 2003, p. 1515) with its own autonomous discourse and codes (Seidl, 2007, p. 202). Indeed, each system "possesses its individual code, according to which its communications are meaningful" (Seidl, 2007, p. 202).

E&PM are grounded on different codes themselves carrying communications. PM research discourse is built on the code labeled success. On the one hand – whatever the school of thought, the onto-epistemological, or the paradigmatic lens – the purpose of PM research is ultimately to increase the likelihood of a project's success. This can be seen in the way scientific publications (explicitly or implicitly) set the scene, justify their relevance and claim making a significant contribution to the research field. On the other hand, entrepreneurship

Table I.
Schools of entrepreneurship and project management research works

School	Key idea/questions	New trends and renewal	Came to prominence	Key variable or unit of analysis
Project management				
Optimization school	Optimize project duration by means of mathematical processes		Late 1940s Archibald and Villoria (1967) Cleland and King (1968/1983)	Time
Modeling school	Use of hard and soft-systems theory to model the project	Hard systems Soft systems	1950s Mid-1990s Anbari (1985) Williams (2002)	Time, cost, performance, quality, risk, etc.
Governance School	Govern the project and the relationship between project participants	Contracts Temporary organization Project-based organization	1970s Mid-1990s Late 1990s Barnes (1983) Turner (2004)	The project, its participants and governance mechanisms
Behavior school	Manage the relationships between people on the project	OB HRM	Mid-1970s Early 2000s Galbraith (1973) Youker (1977) Huemann et al. (2007) Turner et al. (2007)	People and teams working on projects
Success school	Define success and failure Identify causes thereof		Mid-1980s Andersen et al. (2004, first Norwegian edition 1984) Morris and Hough (1987), Pinto and Slevin (1987) Cooke-Davies (2002)	Success criteria and success factors
Decision school	Information processing throughout project life cycle	Project selection Information processing	Late 1980s Morris and Hough (1987) Morris (1997) Flyvbjerg (2006)	Information based on which decisions are made
Process school	Find an appropriate path toward the desired outcome		Late 1980s Winch (1989)	The project, its processes and sub-processes

(*continued*)

School	Key idea/questions	New trends and renewal	Came to prominence	Key variable or unit of analysis
Contingency school	Categorize the project type to select appropriate systems		Gareis (2005) Meredith and Mantel (2006, first published in 1985) Early 1990s Shenhar and Dvir (1996) Turner and Cochrane (1993) Muller and Turner (2007) Crawford et al. (2005)	Factors that differentiate projects
Marketing school	Communicate with all stakeholders to obtain their support	Stakeholders Internal marketing Value of project management	Mid-1990s Mid-1990s Mid-2000s Foreman (1996) Cova and Sale (2005) McElroy and Mills (2007)	Stakeholders and their commitment to the project and project management
Entrepreneurship				
Economic school	Decision making in a constrained environment	New way of acting	Casson (1982) Sarasvathy (2001)	Fit resources and means
Psychological school	Who is an entrepreneur? What are their cognitive processes?	Entrepreneurial cognitive perception of opportunities	Shaver and Scott (1992), Grégoire (2011)	Psycho characteristics Entrepreneurial cognition
Behavioral school	What is the entrepreneur doing?	Dark side entrepreneur behavior and critical studies	Gartner (1989) Klotz and Neubaum (2016)	Good and bad practices
Learning school	What are the processes behind launching a new venture?	Discovering and exploitation of businesses opportunities	Bygrave and Hofer (1991), Shane and Venkataraman (2000)	From an idea to an opportunity

Table I.

research discourse is formed around the code opportunity (Alvarez and Barney, 2013; Shane, 2012; Vogel, 2016); this code is independent from the onto-epistemological or paradigmatic perspectives. Entrepreneurship research is fundamentally about finding ways, in a way or another, to unveil opportunities, made or found (Garud and Giuliani, 2013). Thus, the two fields "differ fundamentally in the way they process meaning," because communications are encoded in a different way (Seidl, 2007, p. 203). PM or entrepreneurship research can be examined according to their criteria, making them meaningful within their own system of discourse. For instance, the concept of performance is not constructed the same way and does not convey the same meaning in the two fields. In PM, the variable performance is usually related to the success of a project, according to predefined goals to be met upon project completion, whereas in entrepreneurship, performance may relate to growth, future profit, or any specific goals pursued by an entrepreneur and this at different time horizons.

One may say that the two fields are sharing some similar general concepts. However, as explained above, "the same words have different meanings in different contexts or discourses. Thus, the transfer of a set of labels from one discourse to another is associated with a (mostly unnoticed) re-interpretation, i.e. with a change of its meaning" (Seidl, 2007, p. 206). Thus, when both fields make use of a label, e.g. innovation (Kuura *et al.*, 2014, p. 216), it is understood in a different way in each field, undermining any attempt at mutual usage between fields. We can, for the purposes of illustration, state that the label "start-up" has a different focus and meaning in PM and in entrepreneurship. In a PM perspective, one speaks about project start-up phase (i.e. planning) (Midler and Silberzahn, 2008), while entrepreneurship sees a business start-up as being part of an entrepreneurial act involving four phases: "the idea, pre-start-up, start-up and post-start-up phase" (Kuura *et al.*, 2014, pp. 220, 224).

Thus, "a discourse cannot receive an input of meaning from another discourse" (Seidl, 2007, p. 207). This aspect is described as "productive misunderstanding" (Teubner, 2000, p. 408):

> In a precise sense, interdiscursive translation is impossible. Here lies the paradox of today's babylonic language confusion. Between the discourses, the continuation of meaning is impossible and at the same time necessary. The way out of this paradox is misunderstanding. One discourse cannot but reconstruct the meaning of the other in its own terms and context and at the same time can make use of the meaning material of the other discourse as an external provocation to create internally something new (Teubner, 2000, p. 408).

Following Luhmann, introducing outer labels or concepts is the source of "perturbation" in the operationally closed discursive systems, i.e. research fields. These labels are re-interpreted according to the specific code of each system, and may create new idiosyncratic meaning in each system. Considering the two fields as parts of an ecology of discourses (Seidl, 2007, p. 208), the shared concepts or labels are "a source of mutual stimulation between different discourses – despite their autonomy," and their operational closure; this phenomenon is described as "structural coupling" (Luhmann, 1992, p. 1432). Through structural coupling, different discourses can "adjust with regards to each other" (Seidl, 2007, p. 209).

In summary, whatever the shared labels or concepts, perceived influence – in a way or another between the two fields or from a tierce field – each one remains a distinct discursive operationally closed system with its own communication code

P2. E&PM should converge because of the potential action-oriented links

Despite the fact that E&PM have developed quite separately, those young disciplines share similar issues.

First, both must achieve a sustainable competitive advantage (Fiol, 2001). For instance, in industrial services, project managers invest in the entrepreneurial learning skills of their team (Matthyssens and Vandenbempt, 1998). They need to be innovative, proactive and capable of

proposing new solutions. In short, project teams are entrepreneurially oriented, and this characteristic stimulates corporate entrepreneurship (Dess and Lumpkin, 2005). In a recent research on 145 ICVs, Covin *et al.* (2015) demonstrate that internal corporate ventures are contingent upon their ability to adjust their value proposition as they develop. Firms engaging in "internal corporate venturing activity can facilitate the recognition of product-market opportunities, the development of new organizational capabilities, the discovery of new technological possibilities, and the creation of new strategic trajectories" (p. 762).

Second, a new organization – be it a project or a venture – shares the same market pressure, especially for innovative products or services. Whatever its nature, it faces uncertainty. New entrants have to learn from, by and about the market. For example, an "incubation period" is often said to exist when new technology-based firms introduce novel products to the market (Christensen and Raynor, 2003). Entrepreneurs and project managers are searching for clarification by markets of how and why particular value propositions are or are not appealing. Agile organizations methods are appropriate for entrepreneurs and project managers. They are considered as those who learn fast and are effective. In order to better understand how entrepreneurial methods of quick and inexpensive learning about the market could be applied in PM, Stettina and Hörz (2015) propose a research based on 30 interviews conducted in 14 large European organizations. By analyzing their application to IT project portfolios, their study contributes to the understanding of agile methods. Agile methods have been implemented bottom-up in the majority of the cases. This is reflected in the fact that characteristics perceived as agile can be mostly found on the project level and portfolio level. They point out the danger a lack of commitment of senior management can pose (Stettina and Hörz, 2015). Digital native entrepreneurs are not as confronted to that problem.

Third, new venture and project-based enterprises are composed of social actors embedded in networks. Traditionally entrepreneurs used collaborative relationships that conveyed the information and resources required to carry out new projects. Ferriani *et al.* (2009) analyze the performance determinants of project entrepreneurs, namely, the individuals who are responsible for launching and carrying out those projects. They argue that project entrepreneur's performance is related to their degree of centrality within the social network, and their familiarity with the selected project team as captured by the distribution of ties among team members. They test these hypotheses within the Hollywood Film Industry over a period extending from 1992 to 2003. The findings show that assembling teams that combine old-timers and newcomers does lead to centrality and performance benefits, albeit bound to the law of diminishing returns (Ferriani *et al.*, 2009).

Fourth, E&PM share the same team management processes. "Small is beautiful": this motto could describe both fields, as both consider optimal teams to be small, coherent, multidisciplinary and highly result oriented. Moreover, team members are often deviant from socially accepted norms (Lin *et al.*, 2016). They are concentrated in the same physical space, which fosters creativity (McKeever *et al.*, 2015). Both the project manager and the entrepreneur generate deep personal loyalty among their team members. In both cases, teams are highly autonomous, responsible and incentive driven. Project teams at Google are a case in point: while Google employees are encouraged to devote 20 percent of their time to personal projects, they are expected to deliver results from those projects within a relatively short time frame, as the Google slogan exemplifies: "Fail early fail fast!" In other words, employees devoting their time to non-performing projects can expect early dismissal. Entrepreneurs and project managers have irregular schedules and are not prone to engage in routine skullduggery (Barczak and Wilemon, 1989). Fixed daily routines are often nonexistent in start-ups, because they have not yet had the time to emerge. Similarly, projects managers often choose to eschew such routines in an attempt to reproduce the entrepreneurial culture. Start-ups are by definition vulnerable and often short lived; as a

result of this, their teams are often temporary. However, in highly entrepreneurial areas, such as Silicon Valley or Route 128 in Massachusetts, the same individuals often tend to move from one project/team to another. A central argument about employment mobility in regional clusters concerns the opportunities for new learning. The concept of "boundaryless career" was recently tested in a French innovation cluster called Minalogic (Culié *et al.*, 2014). On the basis of a set of 42 interviews, this research has highlighted how inter-firm collaborations can lead to the development of individual career capital, and, in turn, boost individual psychological mobility.

Fifth, an emerging common discourse about effectuation/causation argues that dichotomy or continuum is possible thanks to the convergence of those two fields (Alvarez and Barney, 2013). It is often argued that causation is more prevalent in PM while effectuation is more dominant in entrepreneurship. As Brettel *et al.* (2012) have shown on 123 R&D projects, effectuation is positively related to success in highly innovative contexts, and causation approaches are beneficial in projects with low levels of innovativeness. It is not the field that is determinant but rather the degree of innovativeness (Brettel *et al.*, 2012).

Discussion and conclusion

To our first question, are E&PM fields so far from each other and thus, irreconcilable? The answer may be yes!

We can argue that the two fields are grounded in two different discourses and codes, and therefore "differ fundamentally in the way they process meaning" (Seidl, 2007, p. 205). E&PM research works have also two distinct institutional statuses, further emphasizing the distance between them.

The academic status of a research discipline can be assessed by the number and the impact factors of related journals, and by the place occupied by the discipline in the university: has it been assigned a faculty, a school, a department, a discipline or a subject matter expertise within a department?

Based on the Scopus database journal list and CiteScore, Table II summarizes some key facts and figures.

First, considering the active publications, we find 24 journals in entrepreneurship (E) and 8 journals in PM in 2016.

Second, observing the CiteScore 2016, three journals in entrepreneurship have higher CiteScore than 3, the highest being 5.39, while two journals in PM have a score above this threshold, with the highest being 4.58. However, the average CiteScore for entrepreneurship journals (1.22) is lower than the one for PM journals (1.72). Furthermore, considering the evolution of CiteScore since 2011, we note that PM scores higher on average (Figure 1).

Third, paying attention to the coverage of the journals (All Science Classification Codes), it appears that PM journals are mainly covering:

- *Business and International Management;*

- *Civil and Structural Engineering;*

- *Geography, Planning and Development;*

- *Information Systems and Management;*

- *Management Information Systems;*

- *Management of Technology and Innovation;*

- *Management Science and Operations Research;* and

- *Strategy and Management* (Figure 2).

Journal title Scopus database/average CiteScore	2011	2012	2013	2014	2015	2016
E (CiteScore)	0.95	1.13	1.25	1.16	1.28	1.42
PM (CiteScore)	1.49	1.65	1.92	1.86	1.69	1.70
E (nb journals)	17	18	19	21	23	24
PM (nb journals)	3	3	4	4	7	8
Entrepreneurship Theory and Practice	3.94	3.63	4.39	4.65	5.89	5.39
Strategic Entrepreneurship Journal		0.85	2.40	2.47	3.15	3.77
Foundations and Trends in Entrepreneurship	1.18	2.31	1.67	3.50	2.40	3.23
Entrepreneurship and Regional Development	1.90	2.07	2.34	2.43	2.83	3.21
International Journal of Gender and Entrepreneurship				0.86	1.41	2.54
International Entrepreneurship and Management Journal	2.76	3.78	4.22	1.32	1.40	2.20
International Journal of Entrepreneurial Behaviour and Research	1.25	1.52	1.68	1.36	1.71	2.05
Journal of International Entrepreneurship	1.32	2.10	1.86	1.67	1.45	1.80
Journal of Social Entrepreneurship	1.29	1.07	1.68	0.93	1.35	1.25
Journal of Entrepreneurship	0.33	0.47	0.49	0.82	0.62	1.12
International Journal of Entrepreneurship and Innovation				0.33	0.78	1.07
International Journal of Entrepreneurship and Small Business	0.40	0.30	0.36	0.42	0.68	1.02
Journal of Entrepreneurship and Public Policy					1.20	0.96
International Journal of Entrepreneurial Venturing	0.67	0.42	0.23	0.20	0.64	0.68
World Review of Entrepreneurship, Management and Sustainable Development	0.08	0.10	0.21	0.26	0.49	0.66
International Journal of Entrepreneurship and Innovation Management	0.21	0.49	0.62	0.78	0.48	0.59
Journal of Developmental Entrepreneurship	0.43	0.54	0.51	0.64	0.69	0.51
Journal of Entrepreneurship in Emerging Economies					0.80	0.50
Journal of Research in Marketing and Entrepreneurship			0.20	0.69	0.54	0.44
Entrepreneurship Research Journal						0.35
Journal of Entrepreneurship Education	0.00	0.12	0.24	0.43	0.48	0.32
International Journal of Entrepreneurship	0.24	0.26	0.14	0.22	0.30	0.23
Academy of Entrepreneurship Journal	0.00	0.18	0.14	0.30	0.20	0.10
International Journal of Technoentrepreneurship	0.18	0.10	0.30	0.00	0.00	0.00
International Journal of Project Management	2.57	2.70	3.11	3.55	4.16	4.58
Project Management Journal	0.50	0.87	1.01	1.10	2.34	3.04
Impact Assessment and Project Appraisal	1.41	1.38	2.81	2.13	3.13	1.86
International Journal of Information Systems and Project Management						1.28
International Journal of Managing Projects in Business					1.10	1.13
Built Environment Project and Asset Management				0.73	0.66	0.73	1.07
Journal of Modern Project Management					0.21	0.37
International Journal of Project Organisation and Management					0.17	0.28

Source: https://journalmetrics.scopus.com (accessed August 6, 2017)

Table II.
CiteScore summary
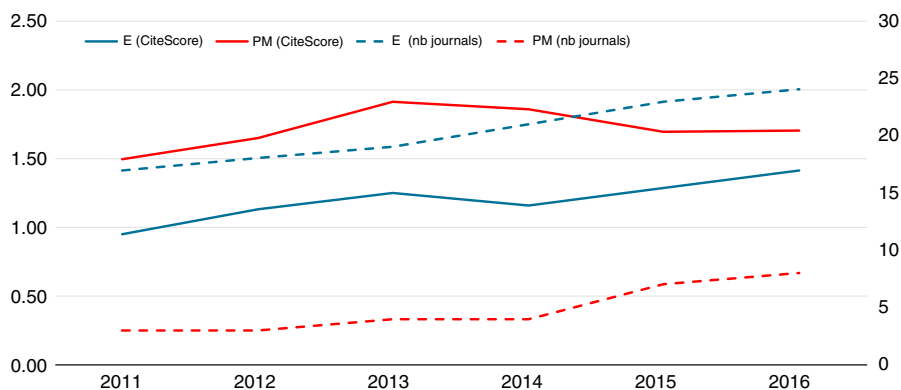for entrepreneurship
and project
management journals

Figure 1.
Journal Scopus
database: average
CiteScore history
and evolution of
the number of
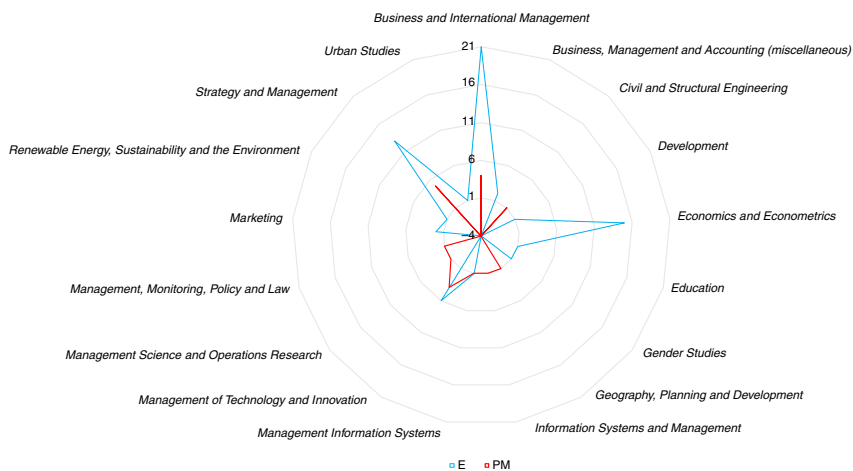entrepreneurship
and project
management journals

Figure 2.
Journal Scopus
database: All Science
Classification Codes
coverage by the
entrepreneurship and
project management
journals

While e-journals coverage is broader, i.e.:

- *Business and International Management;*
- *Business, Management and Accounting;*
- *Development;*
- *Economics and Econometrics;*
- *Education; Gender Studies;*
- *Management Information Systems;*
- *Management of Technology and Innovation;*
- *Marketing; Renewable Energy, Sustainability and the Environment;* and
- *Strategy and Management and Urban Studies.*

The four areas of overlap are:

- *Business and International Management;*
- *Management Information Systems;*
- *Management of Technology and Innovation;* and
- *Strategy and Management.*

The difference in the number of journals and in impact factors of each respective discipline's top journals, as well as in each respective discipline's breadth of coverage, persuades one to acknowledge a distinction between the two fields, a difference of status and focus.

With respect to our second question, if yes, is it so good?, there is no easy answer. Looking for transdisciplinary research is useful only if it helps to better tackle grand challenges and makes "a difference which makes a difference!" (Bateson, 1972, p. 315).

We can argue that E&PM share similar issues, as well as some similar practices (see above *P1*). In the meantime, and beyond these issues, both fields, at least partly, include societal aspects, such as sustainability, environmental concerns, resource efficiency and effectiveness, social entrepreneurship, social design and innovation, computing and technological development (e.g. AI, machine learning, quantum computing), all impacting both fields' discursive and sociomaterial practices (Orlikowski, 2007; Mantere and Vaara, 2008).

From there, "[w]hat is the difference that makes [possibly] a difference" (Bernstein, 1982)? And how to move forward?

With Seidl and Becker (2005), we may find some inspirational thinking process in Luhmann's concept of autopoiesis. Many social researchers failed in their endeavors to apply this concept autopoiesis to social science because they tried to transfer its original, biological meaning and vocation (Maturana and Varela, 1980) directly from one field to the other. In contrast, Luhmann did not apply the concept directly to the social domain, but abstracted "from the originally biological concept a general, transdisciplinary concept of autopoiesis. This transdisciplinary concept of autopoiesis was then be open to re-specifications by the different disciplines" (Seidl and Becker, 2005, p. 25).

A possible way forward is to start by acknowledging that both E&PM are applied sciences aiming at coping with institutional organizational tensions in institutions, as well as competing demands (Smith and Lewis, 2011; Smith and Tracey, 2016). From there, we can move up to the level of general sciences, and beyond each specific discourse and code (although each discursive system remains). It is not an integration but, rather, another dimension and addition to the ecology of discourses adding "another level" of structural coupling. The two fields are, indeed, part of the general scientific discourse (code true/false), built on the code labeled true/false. Thus, instead of borrowing, blending and transferring concepts "laterally" and directly from practice to practice or theory to theory, or from practice to theory (such as done in Kuura *et al.*, 2014, p. 223), we move "upwards" by abstracting general and transdisciplinary concepts from each field, general and transdisciplinary concept. In our illustration, we suggest considering the general concept of paradoxical organizing as a transdisciplinary concept, open to re-specifications by different disciplines. Indeed, as aptly demonstrated by Smith and Lewis (2011) and Smith and Tracey (2016), a theory of paradox offers a relevant ground to better understand and explain organizing tensions, and how to cope with competing organizational demands, and to suggest that our cyclical responses enable organizational sustainability.

Figure 3 summarizes the process of abstraction/re-specification, as well as the distinct logics and specific organizing perspectives. At a general scientific level, we can find Structural Realist organizing aimed at discovering the fundamental structure of the universe through pure research, and Foundationalist organizing, looking for hidden patterns in data by means of induction. At the level of applied science, Instrumentalist organizing engages in truth-independent problem solving, and Strong Paradigm organizing builds a scientific paradigm and exploits its implications. Finally, Critical Realist organizing (not depicted in Figure 3 as this logic can be found at various levels and in different fields) focuses on emancipating people from prevailing structures of power and oppression (Kilduff *et al.*, 2011, p. 299).

At the end of this dialogical conversation, we want to highlight the following points:

(1) E&PM should stay "far from each other" as they do not share the same discourse and code. This distance allows each discipline to develop in its own way, and may create a fruitful creative tension.
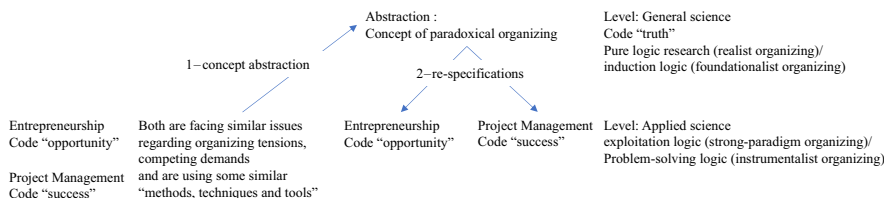

Figure 3.
Transdisciplinary perspective: dynamic of abstraction and re-specification

IJMPB

(2) In the meantime, it would be "good" for these two fields to build on shared issues and move, through a process of abstraction, to a deeper conceptualization and scientific lens, allowing to tackle grand societal challenges in a more fruitful way. Moreover, this would allow through re-conceptualizations to foster the development of the two disciplines in a more enlightened way!

Notes

1. From World Bank Indicators website: http://data.worldbank.org/indicator/NE.GDI.TOTL.ZS (accessed September 25, 2017).

2. Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. According to the 1993 SNA, net acquisitions of valuables are also considered capital formation, see http://data.worldbank.org/indicator/NE.GDI.TOTL.ZS (accessed September 25, 2017).

3. Global Commission on the Economy and Climate, New Climate Economy, October 2016 Report: "The Sustainable Infrastructure Imperative: Financing for Better Growth and Development" available at: http://newclimateeconomy.net (accessed August 5, 2017).

4. www.reuters.com/article/us-global-infrastructure-report-idUSKBN1AA1A3 (accessed August 5, 2017).

5. www.gihub.org/news/new-report-global-infrastructure-outlook-launches (accessed August 5, 2017).

6. www.apm.org.uk/about-us (accessed August 5, 2017).

7. www.etymonline.com/index.php?allowed_in_frame=0&search=conversation (accessed August 27, 2017).

References

Alvarez, S.A. and Barney, J.B. (2013), "Epistemology, opportunities, and entrepreneurship: comments on Venkataraman *et al.* (2012) and Shane (2012)", *Academy of Management Review*, Vol. 38 No. 1, pp. 154-157.

Anbari, F.T. (1985), "A systems approach to project evaluation", *Project Management Journal*, Vol. 16 No. 3, pp. 21-26.

Andersen, E.S., Grude, K.V. and Haug, T. (2004), *Goal Directed Project Management*, Kogan Page, London.

Archibald, R.D. and Villoria, R.L. (1967), *Network-Based Management Systems (PERT/CPM)*, Wiley, New York, NY.

Audet, M. and Malouin, J.-L. (Eds) (1986), *Le procès des connaissances de l'administration, La production des connaissances de l'administration*, Presses de l'Université Laval, pp. 23-66.

Barczak, G. and Wilemon, D. (1989), "Leadership differences in new product development teams", *Journal of Product Innovation Management*, Vol. 6 No. 4, pp. 259-267.

Barnes, M. (1983), "How to allocate risks in construction contracts", *International Journal of Project Management*, Vol. 1 No. 1, pp. 24-28.

Bateson, G. (1972), *Steps to an Ecology of Mind*, Ballantine, New York, NY.

Bernstein, R.J. (1982), "What is the difference that makes a difference? Gadamer, Habermas, and Rorty", *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association, Vol. 2*, pp. 331-359.

Bredillet, C. (2013), "'A' discourse on the non-method", in Drouin, N., Müller, R. and Sankaran, S. (Eds), *Novel Approaches to Organizational Project Management Research: Translational and Transformational*, Copenhagen Business School Press, Copenhagen, pp. 56-94.

Bredillet, C.N. (2010), "Blowing hot and cold on project management", *Project Management Journal*, Vol. 41 No. 3, pp. 4-20.

Brettel, M., Mauer, R., Engelen, A. and Küpper, D. (2012), "Corporate effectuation: entrepreneurial action and its impact on R&D project performance", *Journal of Business Venturing*, Vol. 27 No. 2, pp. 167-184.

Bröckling, U. (2016), *The Entrepreneurial Self: Fabricating a New Type of Subject*, Sage Publications Ltd, Los Angeles, CA.

Bruyat, C. (1994), "Contributions épistémologiques au domaine de l'entrepreneuriat", *Revue française de gestion*, Vol. 101, November-December, pp. 87-99.

Bygrave, W.D. and Hofer, C.W. (1991), "Theorizing about entrepreneurship", *Entrepreneurship Theory and Practice*, Vol. 16 No. 2, pp. 13-22.

Casson, M. (1982), *The Entrepreneur: An Economic Theory*, Rowman & Littlefield, Lanham, MD.

Christensen, C.M. and Raynor, M.E. (2003), *The Innovator's Solution: Creating and Sustaining Successful Growth*, Harvard Business School Press, Boston, MA.

Cleland, D.I. and King, W.R. (1968/1983), *Systems Analysis and Project Management*, 3rd ed., McGraw-Hill, New York, NY.

Cooke-Davies, T.J. (2002), "The 'real' success factors on projects", *International Journal of Project Management*, Vol. 20 No. 1, pp. 185-190.

Cova, B. and Sale, R. (2005), "Six points to merge project marketing into project management", *International Journal of Project Management*, Vol. 23 No. 5, pp. 354-359.

Covin, J.G. and Miles, M.P. (1999), "Corporate entrepreneurship and the pursuit of competitive advantage", *Entrepreneurship: Theory and practice*, Vol. 23 No. 3, pp. 47-63.

Covin, J.G. and Slevin, D.P. (1989), "Strategic management of small firms in hostile and benign environments", *Strategic Management Journal*, Vol. 10 No. 1, pp. 75-87.

Covin, J.G., Garrett, R.P., Kuratko, D.F. and Shepherd, D.A. (2015), "Value proposition evolution and the performance of internal corporate ventures", *Journal of Business Venturing*, Vol. 30 No. 5, pp. 749-774.

Crawford, L.H., Hobbs, J.B. and Turner, J.R. (2005), *Project Categorization Systems: Aligning Capability with Strategy for Better Results*, Project Management Institute, Newtown Square, PA.

Culié, J.D., Khapova, S.N. and Arthur, M.B. (2014), "Careers, clusters and employment mobility: the influences of psychological mobility and organizational support", *Journal of Vocational Behavior*, Vol. 84 No. 2, pp. 164-176.

DeFillippi, R. and Spring, S. (2004), "Project entrepreneurs for project-based enterprises: extension or complement to project management competencies?", *Projects and Profits*, Vol. 4 No. 2, pp. 50-57.

Dess, G.G. and Lumpkin, G.T. (2005), "The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship", *The Academy of Management Executive*, Vol. 19 No. 1, pp. 147-156.

Ferriani, S., Cattani, G. and Baden-Fuller, C. (2009), "The relational antecedents of project-entrepreneurship: network centrality, team composition and project performance", *Research Policy*, Vol. 38 No. 10, pp. 1545-1558.

Fiol, C.M. (2001), "Revisiting an identity-based view of sustainable competitive advantage", *Journal of Management*, Vol. 27 No. 6, pp. 691-699.

Flyvbjerg, B. (2006), "From Nobel Prize to project management: getting risks right", *Project Management Journal*, Vol. 37 No. 3, pp. 5-15.

Flyvbjerg, B. (Ed.) (2017), *The Oxford Handbook of Megaproject Management*, Oxford University Press, Oxford.

Fonrouge, C. (1999), "De l'entrepreneur à l'entreprise: exploration de l'influence des facteurs individuels d'ordre cognitif sur la formation des stratégies des entreprises nouvellement créées", doctoral dissertation, Université Montesquieu Bordeaux IV, Bordeaux.

Fonrouge, C. (2002), "L'entrepreneur et son entreprise: une relations dialogique", *Revue française de gestion*, Vol. 28 No. 138, pp. 145-158.

Foreman, S. (1996), "Internal marketing", in Turner, J.R., Grude, K.V. and Thurloway, P. (Eds), *The Project Manager as Change Agent*, McGraw-Hill, London, pp. 116-125.

Fouché, C. (2011), "Conceptual linking between entrepreneurship and project management: what can we learn? A co-word analysis", doctoral dissertation, SKEMA Business School, Lille.

Frederiksen, L. and Davies, A. (2008), "Vanguards and ventures: projects as vehicles for corporate entrepreneurship", *International Journal of Project Management*, Vol. 26 No. 5, pp. 487-496.

Galbraith, J.R. (1973), *Designing Complex Organizations*, Addison-Wesley Longman, Boston, MA.

Gareis, R. (2005), *Happy Projects!*, Manz, Vienna.

Gartner, W.B. (1989), "'Who is an entrepreneur?': is the wrong question", *Entrepreneurship Theory and Practice*, Vol. 13 No. 4, pp. 47-68.

Garud, R. and Giuliani, A.P. (2013), "A narrative perspective on entrepreneurial opportunities", *Academy of Management Review*, Vol. 38 No. 1, pp. 157-160.

Global Commission on the Economy and Climate (2016), "The sustainable infrastructure imperative: financing for better growth and development", The 2016 New Climate Economy Report, The New Climate Economy, Washington, DC, available at: http://newclimateeconomy.report/2016/misc/downloads/ (access 7 April 2018).

Global Infrastructure Hub (2017), *Global Infrastructure Outlook: Infrastructure Investment Needs 50 Countries, 7 sectors to 2040*, Global Infrastructure Hub, Sydney.

Grégoire, D.A., Corbett, A.C. and McMullen, J.S. (2011), "The cognitive perspective in entrepreneurship: an agenda for future research", *Journal of Management Studies*, Vol. 48 No. 6, pp. 1443-1477.

Hernes, T. and Bakken, T. (2003), "Implications of self-reference: Niklas Luhmann's autopoiesis and organization theory", *Organization Studies*, Vol. 24 No. 9, pp. 1511-1535.

Huang, L. and Knight, A.P. (2017), "Resources and relationships in entrepreneurship: an exchange theory of the development and effects of the entrepreneur-investor relationship", *Academy of Management Review*, Vol. 42 No. 1, pp. 80-102.

Huemann, M., Keegan, A.E. and Turner, J.R. (2007), "Human resource management in the project oriented company: a critical review", *International Journal of Project Management*, Vol. 25 No. 3, pp. 312-320.

Joubert, J. (1850), "Pensées, essais, maximes et correspondance de J. Joubert, précédés d'une notice sur sa vie, son caractère et ses travaux", in Raynal, P. (Ed.), Le Normant, Paris.

Kilduff, M., Mehra, A. and Dunn, M.B. (2011), "From blue sky research to problem solving: a philosophy of science theory of new knowledge production", *Academy of Management Review*, Vol. 36 No. 2, pp. 297-317.

Kiznyte, J., Welker, M. and Dechange, A. (2016), "Applying project management methods to the creation of a start-up business plan: the case of Blendlee", *PM World Journal*, Vol. 5 No. 5, pp. 1-24.

Klotz, A.C. and Neubaum, D.O. (2016), "Research on the dark side of personality traits in entrepreneurship: observations from an organizational behavior perspective", *Entrepreneurship Theory and Practice*, Vol. 40 No. 1, pp. 7-17.

Kuura, A., Blackburn, R.A. and Lundin, R.A. (2014), "Entrepreneurship and projects – linking segregated communities", *Scandinavian Journal of Management*, Vol. 30 No. 2, pp. 214-230.

Lin, C.P., Tsai, Y.H. and Liu, M.L. (2016), "Something good and something bad in R&D teams: effects of social identification and dysfunctional behavior", *Technological Forecasting and Social Change*, Vol. 104, March, pp. 191-199.

Lindgren, M. and Packendorff, J. (2003), "A project-based view of entrepreneurship: towards action-orientation, seriality and collectivity", in Steyaert, C. and Hjorth, D. (Eds), *New Movements in Entrepreneurship*, Edward Elgar, Cheltenham, pp. 86-102.

Luhmann, N. (1989), *Ecological Communication*, University of Chicago Press, Chicago, IL.

Luhmann, N. (1992), "Operational closure and structural coupling: the differentiation of the legal system", *Cardozo Law Review*, Vol. 13 No. 5, pp. 1419-1441.

Luhmann, N. (1995), *Social Systems*, Stanford University Press, Stanford, CA.

Luhmann, N. (2005), "The autopoiesis of social systems", in Seidl, D. and Becker, K. (Eds), *Niklas Luhmann and Organization Studies*, Liber and Copenhagen Business School Press, Frederiksberg and Copenhagen, pp. 64-82.

Lundin, R.A., Arvidson, N., Brady, T., Ekstedt, E., Midler, C. and Sydow, J. (2015), *Managing and Working in Project Society: Institutional Challenges of Temporary Organizations*, Cambridge University Press, Cambridge.

McElroy, W. and Mills, C. (2007), "Managing stakeholders", in Turner, J.R. (Ed.), *The Gower Handbook of Project Management*, 4th ed., Gower, Aldershot, pp. 757-778.

McKeever, E., Jack, S. and Anderson, A. (2015), "Embedded entrepreneurship in the creative re-construction of place", *Journal of Business Venturing*, Vol. 30 No. 1, pp. 50-65.

Mantere, S. and Vaara, E. (2008), "On the problem of participation in strategy: a critical discursive perspective", *Organization Science*, Vol. 19 No. 2, pp. 341-358.

Matthyssens, P. and Vandenbempt, K. (1998), "Creating competitive advantage in industrial services", *Journal of Business and Industrial Marketing*, Vol. 13 Nos 4-5, pp. 339-355.

Maturana, H.R. and Varela, F.J. (1980), *Autopoiesis and Cognition: The Realization of the Living*, D. Reidel Publishing Co., Dordrecht and Boston, MA.

Meredith, J.R. and Mantel, S.J. Jr (2006), *Project Management: A Managerial Approach*, 9th ed., Wiley, New York, NY.

Midler, C. and Silberzahn, P. (2008), "Managing robust development process for high-tech startups through multi-project learning: the case of two European start-ups", *International Journal of Project Management*, Vol. 26 No. 5, pp. 479-486.

Morin, E. (1984), *Sociologie*, Fayard, Paris.

Morris, P.W.G. (1997), *The Management of Projects*, 2nd ed., Thomas Telford, London.

Morris, P.W.G. and Hough, G.H. (1987), *The Anatomy of Major Projects: A study of the Reality of Project Management*, Wiley, Chichester.

Muller, R. and Turner, J.R. (2007), "Matching the project manager's leadership style to project type", *International Journal of Project Management*, Vol. 25 No. 1, pp. 21-32.

Nicolai, A.T. (2004), "The bridge to the 'real world': applied science or a 'schizophrenic tour de force'?", *Journal of Management Studies*, Vol. 41 No. 6, pp. 951-976.

Orlikowski, W.J. (2007), "Sociomaterial practices: exploring technology at work", *Organization Studies*, Vol. 28 No. 9, pp. 1435-1448.

Pinto, J.K. and Slevin, D.P. (1987), "Critical factors in successful project implementation", *IEEE Transactions on Engineering Management*, Vol. 34 No. 1, pp. 22-27.

Project Management Institute (2013), *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*, 5th ed., Project Management Institute, Newtown Square, PA.

Project Management Institute (2016), "The high cost of low performance: how will you improve business results? PMI's Pulse of the Profession®, 8th Global Project Management Survey", Project Management Institute, Newtown Square, PA.

Project Management Institute (2017), "Transforming high cost of low performance: success rates rise: PMI's Pulse of the Profession®, 9th Global Project Management Survey", Project Management Institute, Newtown Square, PA.

Sarasvathy, S.D. (2001), "Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency", *Academy of Management Review*, Vol. 26 No. 2, pp. 243-263.

Seidl, D. (2007), "General strategy concepts and the ecology of strategy discourses: a systemic-discursive perspective", *Organization Studies*, Vol. 28 No. 2, pp. 197-218.

Seidl, D. and Becker, K. (Eds) (2005), *Niklas Luhmann and Organization Studies*, Liber and Copenhagen Business School Press, Frederiksberg and Copenhagen.

Seidl, D. and Becker, K.H. (2006), "Organizations as distinction generating and processing systems: Niklas Luhmann's contribution to organization studies", *Organization*, Vol. 13 No. 1, pp. 9-35.

Seidl, D. and Mormann, H. (2014), "Niklas Luhmann as organization theorist", in Adler, P.S., Du Gay, P., Morgan, G. and Reed, M. (Eds), *The Oxford Handbook of Sociology, Social Theory, and Organization Studies: Contemporary Currents*, Oxford University Press, Oxford, pp. 125-157.

Shane, S. (2012), "Reflections on the 2010 AMR decade award: delivering on the promise of entrepreneurship as a field of research", *Academy of Management Review*, Vol. 37 No. 1, pp. 10-20.

Shane, S. and Venkataraman, S. (2000), "The promise of entrepreneurship as a field of research", *Academy of Management Review*, Vol. 25 No. 1, pp. 217-226.

Shaver, K.G. and Scott, L.R. (1992), "Person, process, choice: the psychology of new venture creation", *Entrepreneurship Theory and Practice*, Vol. 16 No. 2, pp. 23-46.

Shenhar, A.J. and Dvir, D. (1996), "Toward a typological theory of project management", *Research Policy*, Vol. 25 No. 4, pp. 607-632.

Smith, W.K. and Lewis, M.W. (2011), "Toward a theory of paradox: a dynamic equilibrium model of organizing", *Academy of Management Review*, Vol. 36 No. 2, pp. 381-403.

Smith, W.K. and Tracey, P. (2016), "Institutional complexity and paradox theory: complementarities of competing demands", *Strategic Organization*, Vol. 14 No. 4, pp. 455-466.

Stettina, C.J. and Hörz, J. (2015), "Agile portfolio management: an empirical perspective on the practice in use", *International Journal of Project Management*, Vol. 33 No. 1, pp. 140-152.

Teubner, G. (2000), "Contracting worlds: the many autonomies of private law", *Social and Legal Studies*, Vol. 9 No. 3, pp. 399-417.

Tsoukas, H. and Hatch, M.J. (2001), "Complex thinking, complex practice: the case for a narrative approach to organizational complexity", *Human Relations*, Vol. 54 No. 8, pp. 979-1013.

Turner, J.R. (2004), "Project contract management: incomplete in its entirety", *Construction Management and Economics*, Vol. 22 No. 1, pp. 75-83.

Turner, J.R. and Cochrane, R.A. (1993), "The goals and methods matrix: coping with projects with ill-defined goals and/or methods of achieving them", *International Journal of Project Management*, Vol. 11 No. 2, pp. 93-102.

Turner, J.R., Huemann, M. and Keegan, A.E. (2007), *Human Resource Management in the Project-Oriented Organization*, Project Management Institute, Newtown Square, PA.

Turner, R., Anbari, F. and Bredillet, C.N. (2013), "Perspectives on research in project management – the nine schools", *Global Business Perspectives*, Vol. 1 No. 1, pp. 3-28.

Venkataraman, S. (1997), "The distinctive domain of entrepreneurship research: an editor's perspective", in Katz, J. and Brockhaus, R. (Eds), *Advances in Entrepreneurship, Firm Emergence, and Growth*, Vol. 3, JAI Press, Greenwich, CT, pp. 119-138.

Von Mises, L. (1949), *Human Action: A Treatise on Economics*, 4th revised ed., Fox & Wilkes, San Francisco, CA.

Vogel, P. (2016), "From venture idea to venture opportunity", *Entrepreneurship Theory and Practice*, Vol. 41 No. 6, pp. 943-971.

Wegerif, R. (2008), "Dialogic or dialectic? The significance of ontological assumptions in research on educational dialogue", *British Educational Research Journal*, Vol. 34 No. 3, pp. 347-361.

Williams, T. (2002), *Modelling Complex Projects*, Wiley, Chichester.

Winch, G.M. (1989), "The construction firm and the construction project: a transaction cost approach", *Construction Management and Economics*, Vol. 7 No. 4, pp. 331-345.

Youker, R. (1977), "Organization alternatives for project managers", *Management Review*, Vol. 66 No. 11, pp. 46-53.

Further reading

Bredillet, C.N. (2004), "Theories and research in project management: critical review and return to the future", doctoral dissertation, Lille School of Management, Lille.

Bredillet, C.N., Conboy, K., Davidson, P. and Walker, D. (2013), "The getting of wisdom: the future of PM university education in Australia", *International Journal of Project Management*, Vol. 31 No. 8, pp. 1072-1088.

Casson, M. (2005), "Entrepreneurship and the theory of the Firm", *Journal of Economic Behavior and Organization*, Vol. 58 No. 2, pp. 327-348.

Cooke-Davies, T.J., Crawford, L.H. and Lechler, T.G. (2009), " Project management systems: moving project management from an operational to a strategic discipline", *Project Management Journal*, Vol. 40 No. 1, pp. 110-123.

Kwak, Y.H. and Anbari, F.T. (2008), *Impact on Project Management of Allied Disciplines: Trends and Future of Project Management Practices and Research*, Project Management Institute, Newtown Square, PA.

Schlesinger, L.A., Kiefer, C.F. and Brown, P.B. (2012), "New project? Don't analyze – act", *Harvard Business Review*, Vol. 90 No. 3, pp. 154-158.

Shenhar, A.J. and Dvir, D. (2007), "Project management research – the challenge and opportunity", *Project Management Journal*, Vol. 38 No. 2, pp. 93-99.

Söderlund, J. (2002), "On the development of project management research: schools of thought and critique", *Project Perspectives*, Vol. 8 No. 1, pp. 20-31.

Söderlund, J. (2011), "Pluralism in project management: navigating the crossroads of specialization and fragmentation", *International Journal of Management Reviews*, Vol. 13 No. 2, pp. 153-176.

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