Dynamic collaborative social practice in projects: collaborative innovation revisited

Dr R. Michaelides
The Management School, University of Liverpool, Liverpool, UK
Roula.Michaelides@liverpool.ac.uk
Prof E Antonacopoulou
The Management School, University of Liverpool, Liverpool, UK
Omar Elsayed
The Management School, University of Liverpool, Liverpool, UK

Abstract

This study explores ways in which collaborative innovation maybe fostered in operations/project management. We report insights from a large inductive study on social-dynamic interactions involving multi-industry operations/project practitioners. By exploring inherent dynamics enabling/constraining practitioners in complex, uncertain environments helps reveal factors influencing their ability to collaborate and achieve innovative potential.

Keywords: Collaborative innovation practice, Project management

INTRODUCTION

Project management is an area where prolific studies have been published identifying models for managing effective and efficient projects, application of standards and frameworks across various sectors. Svejvig & Andersen (2014) branded existing project management methodologies as stagnant and not oriented on practice. Recent reviews of the trends in project management research suggest an evident concentration on practices with narrow focus on sectors and industries, such as construction or engineering. In an extensive study published by Besner and Hobbs (2012), it is also concluded that this fragmented approach does not lend itself for comparative evaluation purposes. Adopting a wider view of project management practice across sectors and project types thus, reflecting the diversity of projects would be beneficial to identify general use and usefulness of large numbers of project management practices (Besner and Hobbs, 2012). It has been identified that project management practitioners face problems due to the un-substantive value of project management methods usefulness and effectiveness (Thomas and Mullaly, 2007); the lack of evidence of uniform applicability across sectors (Besner and Hobbs, 2006); the low adoption of the project management methods (Ahlemann et al, 2009).

As organisations become more experienced and projects become more complex and uncertain this growing complexity calls for fresh ways in which to both understand the emergent and dynamic nature of project management and in particular to look at the scope for collaborative innovation that projects inherently have capacity to deliver. The real challenge of the complexity of projects lies in the collaboration between project partners. This focus on collaboration is not

only a matter of recognising the need to incorporate projects into the strategy process and contribute to the organisation's ability to carry out novel projects as Lenfle and Loch (2010) propose. Nor is it a matter of studying the actions (praxis) of actors within the projects and the activities and rules guiding their behaviours as Blomquist et al. (2010) and suitably proclaim. There is therefore, a need to alter our theoretical conceptualizations of project management practice beyond the linear and often deterministic approaches thus far adopted. Although there has been a plethora of papers addressing the type and ways project management methods have been applied in certain project environments and how they have been evaluated as successful limited account has been given to the innovation that projects entail particularly due to the dynamics of social interaction. It is this collaborative element inherent in project management that this paper seeks to address. Understanding how innovation competence through collaborations in projects can be developed is a key feature in this work. This focus on collaborative innovation, is argued here, will not only reflect the complex dynamics of project management in practice but more fundamentally the scope for innovation within and between projects. Consistent with Söderlund and Maylor's (2012) call for greater alignment between research and practice, it will be argued that the focus on collaborative innovation through the co-creation of knowledge among project management practitioners stands to demonstrate more actively the impact of such research can both reflect and support future practice in his field.

The study offers empirical insights and examines collaborative dynamics across industries and across locations. To unpack the social dynamics of project management as a practice, this paper adopts a practice-based view (PBV) as an alternative to the traditional formulaic approaches to managing projects with an aim to articulate more accurately the complexity of project management. By synthesizing insights from our analysis of collaborative innovation of project management practice, coupled with the findings from the engagement of practitioners we wish to highlight novel ways in which collaborative innovation may be fostered even in temporal settings such as projects. Innovation from collaboration and collaborating to innovate provides a powerful dimension of project management practice and one that has been missing in existing analysis. The research question this study seeks to answer is: *What is the current role of collaboration in project management and how does it affect innovation in projects?*

We begin our analysis with an innovative lens in our reconceptualization of project management as a dynamic collaborative social practice. We introduce in project management research a PBV to capture the lived experiences of project management practitioners. The PBV has already been widely adopted in management and organization studies since the introduction of the practice turn in social theory (Schatzki et al., 2001). Social practice theory in its various theoretical interpretations draws attention to the interaction of social actors and the resulting structures they create and which also govern their actions and trans-actions (Bourdieu, 1990). As a theoretical lens it has been employed in a variety of management practices and has been invaluable in rethinking strategy (Jarzabkiowski, 2005), leadership (Carroll et al. 2008), learning and knowing (Nicolini et al. 2003) and other organizational and management practices. Although the focus of PBV within each of these practices has varied from greater attention to activities, what practitioners actually do, the modes of interaction among social members of the social group and modes of knowing respectively, the common denominator is that a PBV unlike the alternative reference to practice-based studies (which focuses on reproduction and institutionalization - Gherardi, 2006), seeks to promote greater attention to the complexity and dynamic emergence of practices (Antonacopoulou, 2008). The need for ways of capturing the emergence of practices has been recently identified as a key priority in future research adopting a social practice orientation.

By understanding management and organizational practices as dynamic and complex greater attention is given beyond the ways in which social actors interact and shape their social structures, the ways in which interdependencies are formed that affect and are affected by collaboration and by implication also reflect the inherent complexity and emergence of social practices. This orientation helps us better understand how practices are continuously formed, performed and transformed (Antonacopoulou, 2008).

COLLABORATIVE INNOVATION IN PROJECT MANAGEMENT

Collaboration is mentioned in academic and professional project management publications and Ollus et al. (2011) define collaboration as 'a process in which entities share information, resources and responsibilities to jointly plan, implement, and evaluate a program of activities to achieve a common goal' (p. 452). Ollus et al (2009) define collaborative project management in terms of interaction levels- transaction, system and business process and management range – information exchange, monitoring and active management. As resources and capabilities required for projects within an organisation may be restricted, collaboration with a number of partners can improve the organisation's innovative capabilities (Faems et al, 2005).

In terms of speed, product innovations are introduced faster than process innovations (Gambatese and Hallowell, 2011). Collaborative innovation therefore can be seen as the pursuit of innovations across organisational boundaries though sharing of ideas, knowledge, expertice and opportunities (Ketchen et al, 2008). Methods of collaborative innovation include participatory design, empathy, trust and modularisation (Greer and Lei, 2012). A collaborative innovation project is 'a project in which firms join forces to cooperate in the development and commercialization of a new building product, system, or service for a range of potential customers or clients' (Rutten et al., 2014). Greer and Lei (2012), Gambatese and Hallowell (2011) outline factors driving collaborative innovation: demand of customisation; technological change; product modularity (attempts to make standard interfaces for different components to make the connection between them easier); expertise and depth of knowledge; motivation for collaboration (collaborative efforts are requested to be sustainable); strategy (to avoid competitors posing as clients or clients becoming competitors in the future); cultural views on collaboration (collaboration issue that may also affect innovation); presence or absence of trust and empathy; availability of time; managerial buy-in and support; and climate and structure of the organisation. Innovation focus is influenced by managerial experience and buy-in, education, age and gender of project managers, willingness and ability to manage conflicts, business structure of the firm, organisational culture (Gambatese and Hallowell, 2011). For organisations to collaborate and achieve innovation at the level of the project team, they need to have common goals, share resources and knowledge, cohesiveness in terms of competencies and group longevity (Gambatese and Hallowell, 2011). Yu et al. (2013) also add that collaboration does not guarantee innovation. Like collaboration, innovation requires knowledge sharing, but having a large knowledge base does not always lead to innovation (Greer and Lei, 2012), though it significantly improves the likelihood of innovation (Yu et al., 2013).

Looking at project innovation, it is common to see that in practice many companies believe innovation is relevant to the initial project stages (Sundström and Zika-Viktorsson, 2009). Artto et al. (2009) found that these stages also have the most opportunities to achieve innovation, as decisions on cost, price, market strategies, functionality, are made.

Collaborative innovation within projects is of course not without problems. In their study of the innovation ecosystem Dhanaraj and Parkhe, (2006) highlight that project managers and the project team cannot guarantee successful outcomes and deliverables of innovative projects. Most worrying though is that innovation projects represent a high failure rate compared to other types of projects, with as many as 35% of innovation projects failing commercially (Bowers and Khorakian, 2014).

PROJECT MANAGEMENT PRACTICE

Justifiably, projects are increasingly recognised as complex social settings (Cicmil et al., 2006), where the actuality of projects and the practitioner's lived experience of projects become the critical success factors. In this vein, Cicmil and Hodgson (2006) highlight the need for instrumental and value rationality as the basis for project management practices a point that is further extended by Cicmil et al. (2006) and Williams and Samset (2010) identifying project complexity, social process, value creation, project conceptualisation, and practitioner development as some of the under-researched themes requiring investigation based on practitioners' experiences of managing projects. A shift in research orientation towards practice help to address a range of crucial project elements such as: the social responsibility of management; ethical conduct, bounded rationality; anxiety; emotions; the operation of dominant discourses; power and knowledge relationship; culture; and identity (Cicmil et al., 2006). The collaborative character of projects and project management as a practice provides a particular focus on the ways in which social actors learn to collaborate just as they learn from the collaboration (Antonacopoulou, 2010). In other words, projects are seen as a space for forming interdependencies and through these relational connections they provide scope for homogeneity and heterogeneity among social actors and their approach to conducting specific aspects of the project. For example, it is often the case in projects that different tasks relevant to the final outcome of the project are conducted by different members of the project team, which often comprises of collaborators across departments, units or organizations. Perhaps a fundamental differentiating factor which merits consideration is the political tensions that are inherent in projects. Such political tensions would reflect that difficulties of aligning often competing priorities among collaborators, a point that is well made in the collaboration literature (Huxham and Vangen, 2005; Huxham and Hibbert, 2008) as well as, in the practice literature (Antonacopoulou, 2008). Practice theory approaches to project management is gaining momentum in academic literature as it questions the dominating professional conceptualisation of project management as a system of processes. In other words project management practice theory moves away from the reductionist rationale of project management as a process, into a new space where project managers practice project management and in practicing know and learn the practice of project management (O'Keefe et al, 2015).

RESEARCH DESIGN AND METHODS

Expanding upon the literature discussion this study posits that collaborative capability in the form of social interactions - is one of the most salient features of projects, seamlessly enabling innovation across multiple industries and regions. This study aims to test collaborative innovation literature key conditions with the lived experiences of project managers through interviews and focus groups. This multi-faceted collection of practitioners represents a range of project managers

across many industries and regions with varied project management maturity and capabilities who are studying on an online MSc in Project Management at a UK University.

The interviews focussed on collecting rich data to facilitate our understanding of the following topical categories: How social interactions between practitioners take place; what actions do they take, what models do they use and how are collaborative actions organised, initiated, coordinated in a project environment. We specifically asked them to comment on their attitudes to the established project management practices, the models, frameworks and standards that they use to effectively and efficiently manage projects, the emergent characteristics of modern projects that present core challenges and the ways collaboration impacts on their projects. An invitation to attend a Skype interview was sent through an email and the invitation to the focus group was sent to a the largest cluster of project managers that were based in UAE. Forty-three respondents agreed to participate in the interviews, and eight participated in a focus group in Dubai.

Thematic analysis based on pattern coding was used to identify main themes and issues relating to collaborative innovation within the project management context (Miles and Huberman, 1994). A three stage coding technique was used to generate inductive themes that were verified using triangulation (48 different participants) by calculating relative frequencies of each code.

FINDINGS

Of the 51 participants, 10 were female and 41 male project managers, working across regions: Europe: 8; Africa: 11; Middle East: 15; and Other: 17. The average number of working experience as project managers of the participants was 10.4 years with an average of 15.7 projects been managed by participants. Participants reported that on average they were involved with 24 collaborative partners (minimum: 2 and maximum: 100). The frequency distribution of the industries that the participants are involved in is: Construction (14); Banking(2); Oil and Gas (6); IT services (1); Other Services (25). The responses were collated and open coding was first generated. Following on a more exhaustive analysis took place to create groupings of the different theoretical categories underlying the first order codes. Axial and selective codes based on the identified patterns and themes relative to PMI practices and the discussed literature. Following the coding of the data, the following high level template was generated based on the identified themes below.

A. Dynamism of social complexity in projects (endogenous/exogenous tensions)
- Collaborative Enablers

Effective communication channels; Soft skills: Leadership; Relationships; Organizational culture; Personal characteristics: Empathy; Trusting; Processes; Knowledge; expertise

- Collaborative Barriers

Communication issues; Cultural diversity; Personal characteristics: motivation & relationships; Processes Organizational culture: Process and governance

- Collaboration Motivation

External skillset ; Problem solving; coordination ; Share knowledge and expertise; Achieve business outcomes

- Benefits

Knowledge Gain; Learning; Expertise exchange; Relationship building

- Collaborative Partners

Selection Criteria: Technical skills; Previous record; Soft skills: Communication skills Knowledge; and Ethics: trust and honesty
Collaboration processes: Technology; People & culture; Process and governance

Process Communication: Formal face-to-face; letters,emails; Informal chat; Virtual; Phonecall

B- Dynamics in the Ecosystem

Rapidly changing environment: New Technology Organizational structure; Lack of PM awareness

C- Project Impact/ Innovation

- Type of Innovation

Process innovation; Procedural; Product; Technology

- Enablers

Management support ; People; Resources; Personal skills: trust, knowledge sharing & communication

In further analysing the data, we sought to understand the underpinning drivers of collaboration in projects by investigating examples provided by the interviewees. A key finding is that solving a problem by sharing external information, knowledge and skills is generally the impetus for collaboration innovation in project management practice (Figure 1).
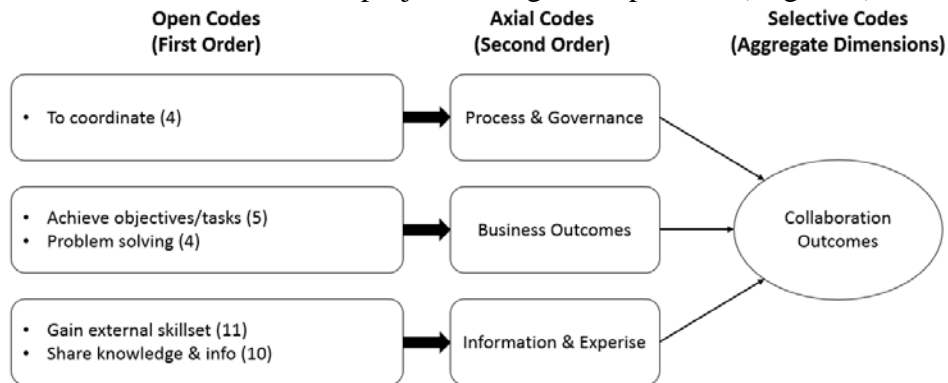

Figure1: Reasons for Collaboration findings

Another principal finding is that successful collaborative practice is attributed largely to availability of good communication channels and is influenced by organizational culture, structure and leadership practices (Figure 2). Supportive organisational culture was highlighted as key, especially due to the reported diversity and ensuing tensions within project teams.
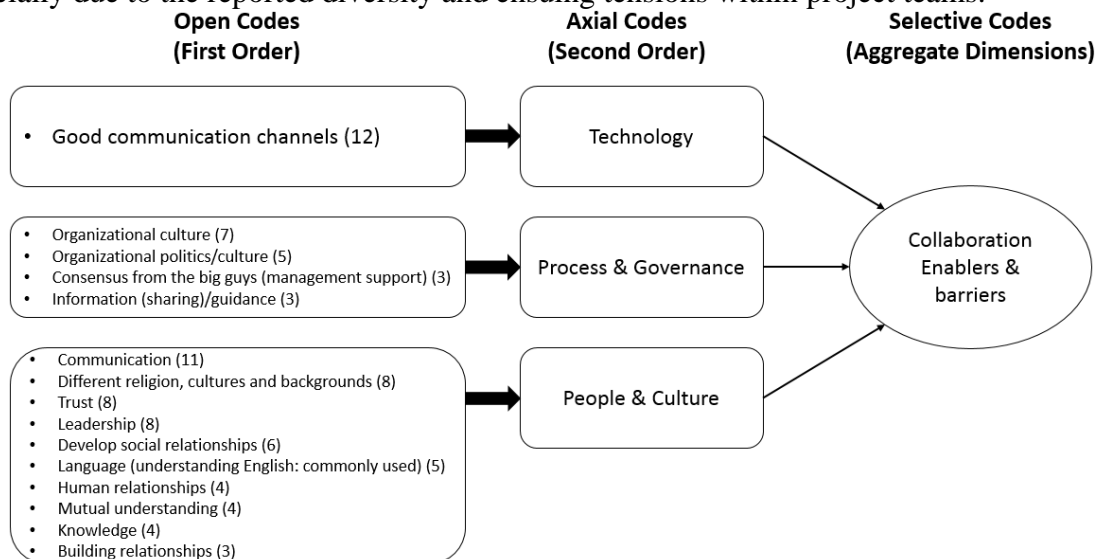
When participants were asked to elaborate on the collaborative processes they engage in it was unsurpring that that face-to-face meetings is still the most common method of communication, followed by emails and memos (Figure 3). Surprisingly only a handful of participants (four) mentioned the importance of virtual communication channels such as Skype. Given the fact that the paticipants' companies are mostly international, it was expected to see a larger emphasis on virtual collaborative tools. When the data were examined closely it emerged that participants in Africa and the Middle East were in favour of using more traditional communication tools. This may be due to the lack of an extensive Internet broadband infrasturucture in Africa or it my be a behavioural norm.
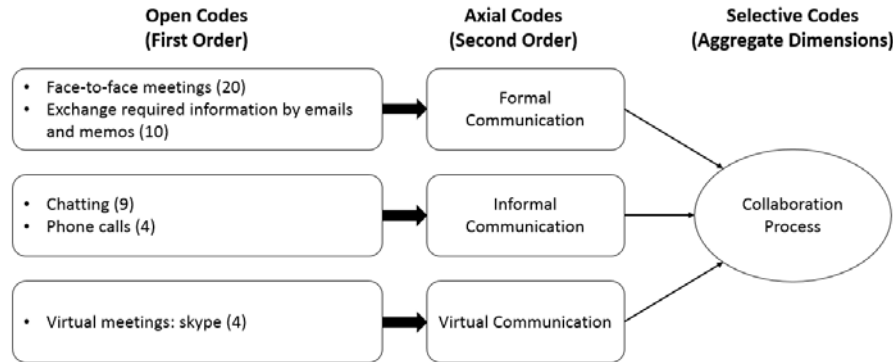
Open Codes (First Order) — **Axial Codes (Second Order)** — **Selective Codes (Aggregate Dimensions)**

- Face-to-face meetings (20)
- Exchange required information by emails and memos (10)

→ Formal Communication

- Chatting (9)
- Phone calls (4)

→ Informal Communication

- Virtual meetings: skype (4)

→ Virtual Communication

→ Collaboration Process

Figure 3: Collaboration Process Findings

When it comes to social interaction between project teams and capability to innovate and share knowledge the findings were in congruence with the literature propositions (Figure 4). Participants indicated the importance of top management support and buy-in in order to innovate. The project managers focused on the human resource aspects of teams as it all comes to individual knowledge and skill set from their own point of view when it comes to substantial innovation. The majority of participants (83%) also reported that they believe that innovation is an outcome of project management practice. A closer analysis of the data showed that experienced project managers (based on years of experience and number of managed projects) had more awareness about the importance of collaborative innovation especially within the given dynamic environment.
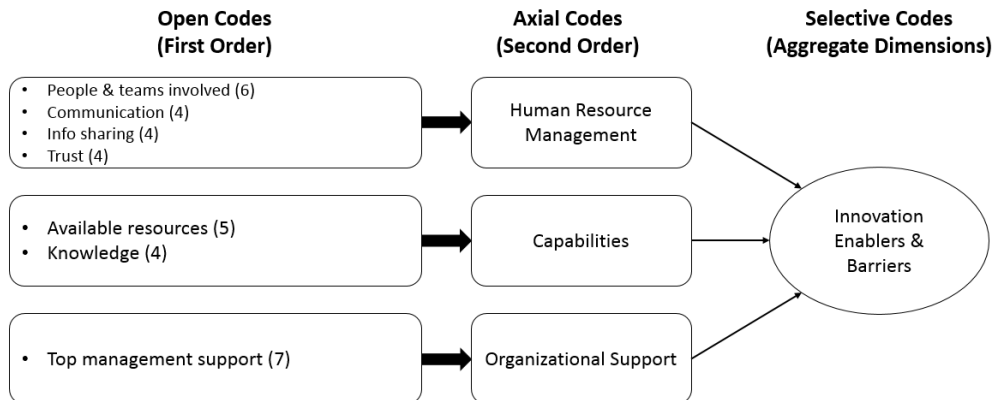
Open Codes (First Order) — **Axial Codes (Second Order)** — **Selective Codes (Aggregate Dimensions)**

- People & teams involved (6)
- Communication (4)
- Info sharing (4)
- Trust (4)

→ Human Resource Management

- Available resources (5)
- Knowledge (4)

→ Capabilities

- Top management support (7)

→ Organizational Support

→ Innovation Enablers & Barriers

Figure 4: Project outcomes and Innovation Findings

This was obvious since the other (17%) participants who were not involved in innovative activities showed their concern and blamed organizational lack of support for innovation, reinforcing the importance of innovation even though they are not involved in any.

It is obvious from the results that there was no consistency in understanding and describing collaborative innovation in projects. Although the majority indicated that innovation is a direct project outcome, the reported innovation type varied across different (Figure 5). The three main identified innovation themes relate to procedural, technological and product innovation. Respondents from Construction or Oil and Gas concentrated on explorative innovation whilst project participants from services mentioned exploitative innovations.
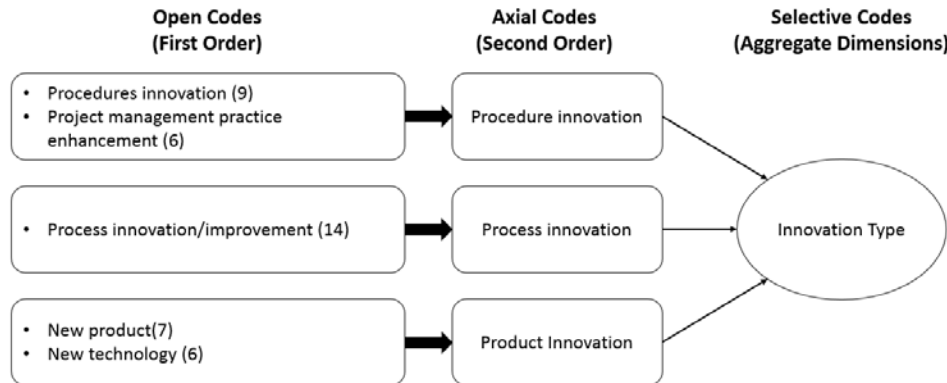

Figure 5: Innovation type

Although there was no explicit link mentioned between collaborative innovation and project success metrics, participants reported three main areas where they believe define how a project is assessed: outcomes, constraints and approval. Participants mentioned that successfully achieving the targets within the approved budget, time frame and quality by satisfying customers are the main indicators of project success. Again this shows the influence PM standards on their responses as they are aware of deliverable and constraints, but this also highlights an important aspect of customer satisfaction, where lots of participants focused on, especially the agile nature as they called it of project delivery that require collaboration from different stakeholders including the customers. These findings were also underpinned by the fact that more than 70% of the participants said that they are involved within open collaborative activities, working with internal and external collaborators in order to achieve project targets. This can also be deducted from the responses indicating that the organization, project manager, client and collaborators all work together as stakeholders in order to define and applies these measures of project success. The importance of collaborative innovation from the participant's point of view was also clear when they indicated the phases they think collaborative innovation takes place within a project. Although few responses indicated variable phases such as execution and planning, the majority agreed on the importance and application of collaborative innovation throughout the whole project starting from the initiation phase till closing.

DISCUSSION AND CONCLUSIONS

This research sought to understand the lived experiences and examples of project management collaborative innovation practice and to validate that this is aligned with key literature findings. Davis and Eisenhardt (2011) identified three primary mechanisms that underlie successful

innovation through collaboration: activation of relevant capabilities, in other words what do collaborative partners have to offer; successful innovation in exploitative and explorative search trajectory, in other words how do organisations search for innovation opportunities; and mobilisation of diverse participants over time. These propositions resonated with the project management practitioners. Within this study the transiency of project team members is perceived as beneficial for exchanging ideas and brining in fresh creative ideas into the projects if it is facilitated by organisational communication channels. We have shown how collaborative innovation is consistently perceived as beneficial for projects across regions and industries however there is a stronger awareness of this amongst the more experienced project managers. Project dynamicity seen as changes due to environmental issues, geopolitical instability, rapidly changing technologies, rapidly changing project requirements, supplier reliability and resilience coupled with the availability of collaborative tools (online virtual collaborative tools, collaborative project management software, content management systems) have been observed to have an impact on the innovation outcomes of a collaborative engagement in projects.

Our findings also highlighted the tensions that are inherent in projects and reflect difficulties of: aligning competing priorities among collaborators; constraints in establishing a collaborative mind-set; lack of top management support all points that are well made in the collaboration literature (Suprapto, Bakker and Mooi, 2015); Huxham and Hibbert, 2008) as well as, in the practice literature (Antonacopoulou, 2008). Another interesting finding appears to support the propositions by Mishra, Chandrasekaran and MacCormack (2015) that the partnering scale has a strong relationship with the innovation performance. In other words, intermediate forms of partnering are associated with higher innovation whilst weak collaborative forms of engagement with partners lead to poor outcomes in terms of innovation.

We conclude our analysis by summarizing the key lessons from the adoption of a PBV in rethinking project management as a dynamic social practice, the focus on collaboration to explicate the political dynamics that contribute to making project management complex and hence, emergent in nature and finally, the ways in which collaboration especially in terms of co-creating knowledge may be a key priority in the way collaborative innovation may need to be reappraised.

Bibliography

Ahlemann, F., Teuteberg, F., Vogelsang, K., 2009. Project management standards: diffusion and application in Germany and Switzerland. *International Journal of Project Management* 27 (3), 292–303.

Antonacopoulou, E. P. 2010. Global Research:Transcending Boundaries by Learning to Collaborate & Learning from Collaboration: Cassell and Lee (eds) *Management Research: Challenges & Controversies,* Routledge

Antonacopoulou, E.P. 2008. On the Practise of Practice: In-tensions and ex-tensions in the ongoing reconfiguration of practice. In D. Barry and H. Hansen (eds) *Handbook of New Approaches to Org Studies*, 112-131. Sage.

Artto, K., Kulvik, I., Poskela, J. & Turkulainen, V. (2011) 'The Integrative Role of the Project Management Office in the Front End of Innovation'. *International Journal of Project Management*, 29, pp. 408-421.

Besner, C., Hobbs, B. 2012. An Empirical Identification of Project Management Toolsets and Comparison Among Project Types, *Project Management Journal* 43(5), 24-46

Besner, C., Hobbs, B., 2006. The perceived value and potential contribution of project management practices to project success. *Project Management Journal* 37 (3), 37–48.

Blomquist, T., Hallgren, M., Nilsson, A. and Sonderholm, A., 2010. Project-as-Practice: In Search of Project Management Research that Matters. *Project Management Journal*, vol. 41, no. 1, pp. 5-16

Bourdieu, P. 1990. *The Logic of Practice*. Cambridge: Polity.

Bowers, J. and Khorakian, A. 2014, Integrating risk management in the innovation project, *European Journal of Innovation Management,* 17 (1), pp

Brown, S. L. and K. M. Eisenhardt (1995, "Product Development - Past Research, Present Findings and Future Directions." *Academy of Management Review* 20(2), pp. 343-378.

Carroll, B. Levy, L. and Richmond, D. 2008. Leadership as Practice: Challenging the Competency Paradigm, *Leadership*, 4(4): 363–379

Cicmil, S. and Hodson, D., 2006. New Possibilities for Project Management Theory: A Critical Engagement, Project Management Institute. *Project Management Journal*, vol. 37, no. 3, pp. 111-122.

Davis, J. P. and Eisenhardt, K. M. 2011. Rotating Leadership and Collaborative Innovation: Recombination Processes in Symbiotic Relationships. *Administrative Science Quarterly* 56: 159-201.

Dhanaraj, C., and Parkhe, A. (2006). Orchestrating innovation networks. *AoM Review*, 31(3), pp. 659- 669

Faems, D. Van Looy, B. and Debackere, K. 2005. Interorganisational collaboration and innovation: toward a portfolio approach. *The Journal of Product Innovation Mgt*, 22(3), pp.238-250

Gherardi, S. 2006. *Organizational Knowledge: The Texture of Organizing*. London: Blackwells

Gambatese, J. A. & Hallowell, M. (2011) 'Enabling and Measuring Innovation in the Construction Industry', *Construction Management and Economics*, 29 (6), pp. 553-567.

Greer, C. & Lei, D. (2012) 'Collaborative Innovation with Customers: A Review of the Literature and Suggestions for Future Research'. *International Journal of Management Reviews*, 14, pp. 63-84.

Huxham, .C. and Hibbert, P. 2008. Manifested attitudes: Intricacies of inter-partner learning in collaboration, *Journal of Management Studies*, 45 (3): 502-529

Jarzabkowski, P. 2005. *Strategy as Practice: An Activity Perspective*, London: Sage.

Ketchen, D.J, Ireland, R.D. and Snow, C.C. 2007. Startegic entrepreneurship, collaborative innovation, and wealth creation. *Strategic Entrepreneurship Journal*, 1(3-4), pp.371-385

Lenflere, S. and Loch, C., 2010. Lost Roots: How Project Management Came to Emphasize Control Over Flexibility and Novelty. *California Management Review*, vol. 53, no. 1, pp. 32-55.

Mishra, A., Chandrasekaran, A.and MacCormack, A. 2015. Collaboration in Multi-Partner R&D Projects: The Impact of Partnering Scale and Scope, *Journal of Operations Management*, Vol 33–34, Jan 2015, pp 1-14

Miles, M.B., Huberman, A.M., 1994. Qualitative Data Analysis. Sage, Beverley Hills, CA.

Nicolini, D., Gherardi, S. & Yanow, D. (Eds.). 2003. Knowing in Organizations: A Practice-Based Approach. Armonk, NY: M. E. Sharpe.

Ollus, M., Jansson, K., Karvonen, I., Uoti, M. & Riikonen, H. (2009) 'On Services for Collaborative Project Management'. In Camarinha-Matos, L.M. et al. (Eds.): PRO-VE 2009, IFIP AICT 307, pp. 451-462. *

Ollus M., Jansson K., Karvonen I., Uoti M and Riikonen H. 2011. Supporting collaborative project management, *Production Planning & Control: The Management of Operations*, 22:5-6, 538-553

O'Keefe, Dainty, A. and Thomson, D. 2015, Methodological Considerations of the project management of a hospital project with a practice order Network,Engineering Project Organization Conference, Edinburgh University

Rutten, M. E. J., Dorée, A. G. & Halman, J. I. M. (2014) 'Together on the Path to Construction Innovation: Yet Another Example of Escalation of Commitment?' *Construction Mgmt and Econ*, 32 (7-8), pp. 695-704.

Schatzki T.R., Knorr-Cetina K, and von Savigny E. 2001. *The Practice Turn in Contemporary Theory*, Routledge

Söderlund J. and Maylor H. 2012. Project Management Scholarship: Relevance, impact and five integrative challenges for business and management schools, *Int J of Project Management*, 30 (2012) 686–696

Sundström, P. & Zika-Viktorsson, A. (2009) 'Organizing for Innovation in a Product Development Project. Combining Innovative and Result Oriented Ways of Working – a Case Study'. *International Journal of Project Management*, 27, pp. 745-753.

Suprapto, M., Bakker, HLM, Mooi, H.G. 2015, Relational factors in owner–contractor collaboration: The mediating role of teamworking. *International Journal of Project Management* 33 (6), 1347–1363

Thomas, J., Mullaly, M., 2007. Understanding the Value of Project Management: First Steps on an International Investigation in Search of Value. *Project Management Journal* 38 (3), 74–89.

Williams, T. and Samset, K., 2010. Issues in Front-End Decision Making on Projects. *Project Management Journal*, vol. 41, no. 2, pp. 38-49.

Yu, C., Yu, T.-F. & Yu, C.-C. (2013) 'Knowledge Sharing, Organizational Climate, and Innovative Behavior: a Crosslevel Analysis of Effects.' *Social Behavior and Personality,* 41, pp. 143– 158