



Investigating organisational learning to master project complexity: An embedded case study

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ABSTRACT

Understanding and properly facing the increasing complexity of projects is a key determinant for success, especially in project-based organisations (PBOs), where projects are the primary unit for innovation. This paper aims to provide new insights into the interplay between project complexity and organisational learning, by exploring the dimensions of complexity identified in literature (i.e. diversity, interdependence, dynamicity, uncertainty) and the patterns and mechanisms of organisational learning (i.e. experience-based knowledge acquisition, knowledge creation, and knowledge capture and codification) within projects embedded in a common organisational context. An embedded case study research was conducted in a leading company of the shipbuilding industry. Results show that different dimensions of complexity require project teams and PBOs to activate (or experience the emergence of) different organisational learning processes. The complexity issues fostering specific behaviours and approaches for organisational learning, and related implications for the overall PBO encompassing project management practices and routines, are discussed.

1. Introduction

Organisations operating in highly dynamic and complex environments encounter major challenges that require to adopt a different mind-set and a growing concern on the managerial competences to master complexity (De Toni, De Zan, & Battistella, 2016; Vasconcelos & Ramirez, 2011). An underlying assumption in management theory and practice is that complexity hinders organisational performance (Hanisch & Wald, 2014), as it grows at a faster rate than the capability of management to cope with it (Maylor & Turner, 2017; Thomas & Mengel, 2008). Nevertheless, complexity can offer opportunities to enhance organisational effectiveness and competitive advantage if it is maintained at a moderate and thus manageable level (Braun & Hadwich, 2016; Vasconcelos & Ramirez, 2011).

The concept of complexity and its implications on organisations is recognised as a major topic of discussion also in project management research and practice. Dealing with the interdependence, uncertainty and change of contemporary projects, and their dynamic environments, poses new challenges (Cooke-Davies, Cicmil, Crawford, & Richardson, 2007). A more contingent approach in managing projects is required, overcoming the conventional linear systems and the “Tayloristic one

best-way approach” as a reference model to apply to any type of project or industry (Blindenbach-Driessen & van den Ende, 2006; Shenhar, 2001). Complexity is often identified as one of the sources of risks (Vidal & Marle, 2008) and failure in delivering project outputs if underestimated or not properly managed (Bosch-Rekvelde, Jongkind, Mooi, Bakker, & Verbraeck, 2011; Brady & Davies, 2014). Therefore, the mastering of complexity is a key determinant of project management performance, and thus affecting the managerial actions to be undertaken to understand and address it. This is true especially in the so-called Project-Based Organisations (PBOs), defined as a type of organising where projects are the primary units for coordinating and integrating production, organisation, innovation and competition (Bartsch, Ebers, & Maurer, 2013; Davies & Brady, 2000). In PBOs the mainstream activities are entirely (or mostly) based on projects, managed by temporarily-organised teams, usually aimed at the design of bespoke solutions (Koskinen, 2012) to fulfil the unique requirements of customers (Gann & Salter, 2000; Hobday, 2000).

Among the managerial approaches to deal with the increasing complexity and uncertainty in projects, knowledge management and learning, both at individual and organisational levels, are major contributors (Atkinson, Crawford, & Ward, 2006; Sommer & Loch, 2004).

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