Relationships between a project management methodology and project success in different project governance contexts

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Abstract
This study looks at the relationship between the use of a project management methodology (PMM) and project success, and the impact of project governance context on this relationship. A cross-sectional, world-wide, online survey yielded 254 responses. Analysis was done through factor analysis and moderated hierarchical regression analysis. The results of the study show that the application of a PMM account for 22.3% of the variation in project success, and PMMs that are considered sufficiently comprehensive to manage the project lead to higher levels of project success than PMMs that need to be supplemented for use by the project manager.

Project governance acts as a quasi-mediator in this relationship. The findings should benefit project management practitioners by providing insights into the choice of PMM in different governance contexts. Academics should benefit from insights into PMMs' role as a success factors in projects.

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1. Introduction
Project success is one of the most researched topics in project management, but the meaning of the term “success” varies substantially (Judgev and Müller, 2005). Cooke-Davies (2002) makes the distinction between project success which is measured against the overall objectives of the project, and accomplished through the use of the project’s output, and project management success which is measured at the end of the project against success criteria, such as those relating to internal efficiency, typically cost, time, and quality (Atkinson, 1999). The accomplishment of these criteria can be influenced throughout the project life cycle through success factors (Müller and Turner, 2007).

One of these factors is the project management methodology (PMM), which is meant to enhance project effectiveness and increase chances of success (Vaskimo, 2011). Thus, PMMs were developed to support project managers in achieving more predictable project success rates. However, the extent that this objective is reached is unknown as projects still fail to reach their goals (Lehtonen and Martinsuo, 2006; Wells, 2013) and a quantification of the impact of PMMs on project success is still missing. Examples of internationally recognized PMMs include Prince 2 from Office of Government Commerce (OGC, 2002), The System Development Life Cycle (SDLC) (Ruparelia, 2010), and Erickson’s PROPS (Ericsson, 2013), whereas PMI Project Management Body of Knowledge (PMBoK) is a body of knowledge and not a methodology (PMI, 2013).

Project management literature distinguishes between standardized versus customized PMMs (Crawford and Pollack, 2007; Curlee, 2008; Fitzgerald et al., 2002; Milosevic and
Patanakul, 2005; Shenhar et al., 2002a), and is divided on whether standardized PMMs, customized PMMs, or a combination of both enhances project effectiveness, hence leading to a higher chance of project success (Curlee, 2008; Milosevic and Patanakul, 2005; Shenhar and Dvir, 1996).

A related perspective is the comprehensiveness of a PMM and its impact on project success (Fortune et al., 2011; Wells, 2013; White and Fortune, 2002). The premise of being able to standardize and/or customize a methodology is underling the assumption that the PMM will become comprehensive, that is, sufficient for any given project.

When an organization’s PMM is incomplete or limited (missing methodology elements), project efficiency, quality, and ultimately the probability of project success will be impacted. Fortune et al. (2011) showed that more than 50% of the respondents in their study experienced limitations using PMMs. Among the most mentioned were limitations in methods, processes, tools, and techniques. A method is a set of procedures, to be used by humans, for selecting and applying a number of techniques and tools in order, efficiently to achieve the construction of efficient artifacts. (Björner & Druffel, 1990). Simply put, a method is what is applied in a particular situation and a methodology is the sum of all methods and the related understanding of them.

Wells (2013) and Joslin and Müller (submitted for publication-a) found that PMMs vary in completeness and appropriateness from organization to organization. Some are considered inadequate for certain types of projects. These reported issues suggest that it is not sufficient to look at a PMM as a whole, especially as every PMM is a heterogeneous collection of practices that vary from organization to organization (Harrington et al., 2012). In this paper, the elements of a PMM are first defined and then they are investigated as to their collective impact on project success in governance contexts.

Governance pervades organizations. “Corporate governance encompasses all work done in an organization, and thus governs the work in traditional line organizations, plus the work done in temporary organizations, such as projects” and project governance is a subset of corporate governance (Müller et al., 2013, p. 26).

The definition of corporate governance have been taken from the Organization for Economic Co-operation and Development (OECD) is:

“It involving a set of relationships between a company’s management, its board, its shareholders and other stakeholders [...] and should provide proper incentives for the board and management to pursue objectives that are in the interests of the company and its shareholders and should facilitate effective monitoring OECD (2004, p. 11).” Corporate governance influences project governance as an oversight function which collectively encompasses the project lifecycle to ensure a consistent approach to controlling the project with the aim of ensuring its success.

Since 2005, the literature on governance in the realm of projects grew exponentially (Biesenthal and Wilden, 2014). However, the role of PMMs in different governance contexts has attracted very little attention in the past. An exception is the study by Joslin and Müller (submitted for publication-b) which showed that project governance, which is defined as “the use of systems, structures of authority, and processes to allocate resources and coordinate or control activity in a project” (Pinto, 2014, p. 383), may influence the effectiveness of using PMMs to achieve project success. A further refinement of this result is indicated through (a) a quantitative approach that allows for generalizable results and (b) more granularity in the identification of the particular elements of a PMM that relate to project success.

The aim of this study is to further investigate the relationship between a PMM and its elements with project success, and how this relationship is impacted by different project governance contexts. Consequently, the following research question is proposed:

What is the nature of the relationship between a PMM and project success and is this relationship influenced by project governance?

The unit of analysis is the relationship between the PMM and project success. In line with the nature of the research question, the study takes a contingency theory perspective.

The results of the study will provide a better understanding of an organization’s PMM in terms of the impact of a PMM on project success, and how different project governance contexts influence the selection, effectiveness, and comprehensiveness in the use of PMMs.

These findings help organizations to understand how to align their PMMs to optimize effectiveness in use, which should result in higher project success rates and reduce the complaints about ill-fitting PMMs.

This paper continues by reviewing the related literature, which is followed by the methodology and analysis sections. The paper finishes with a discussion and conclusions and provides the survey questions in the Appendix A and B.

2. Literature review and hypotheses

This section reviews the literature on project success, project PMMs, and governance from which the hypotheses are derived and describes contingency theory as the theoretical perspective.

2.1. Project success

Since the 1970’s, academics have tried to understand what project success is and which factors contribute to it (Ika, 2009). However, its meaning is still not generally agreed upon (Judgev and Müller, 2005). Project success is a multidimensional construct that includes both the short-term project management success efficiency and the longer-term achievement of desired results from the project, that is, effectiveness and impact (Judgev et al., 2001; Shenhar et al., 1997).

To achieve a common understanding of what project success is, it should be measurable and therefore defined in terms of success criteria (Müller and Turner, 2007). The understanding of project success criteria has evolved from the simplistic triple constraint concept, known as the iron triangle (time, scope, and