Evolution of project based organization: A case study

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Abstract

Little research has been conducted on how project-based organizations navigate internal and external pressures to develop and improve project competences over time. Using a cases study approach, this paper examines the development and implementation of project based organization over a period of 30 years. Overall, the evolution of project management competencies in the organization broadly followed the prevailing approaches in improving organizational management practices uncovered in review of literature. The organization's capability to adopt and implement project management frameworks improved over time as senior managers became more masterful at matching improvement actions into the organizational context. This research also presents how a systematic approach of project management maturity models for identifying and implementing project management practices and processes can increase the effectiveness and comprehensiveness of overall management practices. The study concludes with a series of recommendations in further improving project management practices and processes in project-based organizations.
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1. Introduction

The purpose of this paper is to examine the longitudinal evolution of project management competence in a project-based organization. Organizations engage in a range of interactions with their environments, ranging from arm's length market transactions to face-to-face negotiations within 'relational frameworks'(Scott, 1995). Over time, organizations may exhibit evolutionary responses in which structures and practices are adapted to changing conditions in the external environment (Marsh and Stock, 2006).

The projectification process involves the adaptation of the methods and means of the organization as well as the implementation of project activities. Per Packendorff and Lindgren (2014, p. 7), the project form is the preferred methodology

because they are "perceived as a controllable way of avoiding all the classic problems of bureaucracy." In this perspective, projects, not departments, become the unit of control and the role of management is to manage the relationships between projects and their environment, both internal (within the company) and external (outside the company).

In project based organizations, project management is a strategic competency and improving performance in this domain is of great importance (Erdogan, Anumba, Bouchlaghem, & Nielsen; Green, 2005). However, due to the continually changing nature of project-based organizations, it is a challenge for management of these firms to improve performance (Koskinen, 2012). According to Packendorff and Lindgren, research on project activities has traditionally been focused on single projects as the unit of analysis. Therefore, they argue an emphasis on the processes of projectification would be beneficial to project research. Based on earlier empirical research on the sustenance of project work form and the consequences, they introduce a distinction between narrow and broad conceptualizations of

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projectification. While work examines how projects transform operational structures, little work has been conducted on how project based organizations develop and institutionalize competencies. This paper seeks to extend existing research on project based organizations by examining the longitudinal path of development of a construction organization in the Middle East.

2. Research questions and methodology

A longitudinal case study approach has been used to explore the following questions:

- What were the improvement actions undertaken by the project-based organization over time?
- What was the effect on competencies and the emergent path of development of the project-based organization?
- What improvement approaches are used for planning and managing changes?

The longitudinal approach has been conducted because over time, a trajectory of development may emerge as firms assess and improve their practices over time. Understanding this process will be of value to both researchers and project managers (Mullaly, 2006). Most extant research on maturity models has taken a cross sectional approach, examining the degree to which project management has been adopted in the organization. However, this perspective is limited as organizations are dynamic entities in which the context and practices change over time. In these conditions, cross sectional approaches may not clearly identify interconnections between improvement efforts and observed outcomes. By contrast, a longitudinal approach for studying organizational development can provide a greater understanding of enablers and barriers to improving project practices in firms by uncovering the temporal order of events and the underlying patterns, including possible associations between events, actions and outcomes.

Because maturity models have been proposed and used as main tools for improving project management competence by implying a longitudinal path of development from lower to higher levels of competence, the paper starts with a critical review of the background, common concepts and limitation of maturity approaches to development of project-based organizations. Then, application of these concepts in the longitudinal study of a project-based construction organization has been conducted. This research makes both theoretical and empirical contributions to the body of knowledge in project management. Theoretically, it provides new insights into the effect of maturity models on organizational development. Overall, a review of the project based organization's developmental steps shows a trajectory of development that only partially aligns to the perspective implied by maturity models. Further, within that overall path, both evolution (adoption of prevailing frameworks) and coevolution (adaptation of practices to context) between project practices and the company context occurred over time in the organization. This study also found that increasing the effectiveness and comprehensiveness of improvement efforts is one of the main advantages of maturity models. By *comprehensiveness* we refer to the

capability of the project management maturity framework for covering different aspects of the organization's work. By *effectiveness* of the approach we mean the capability of its mechanism for identifying, prioritizing and leading required improvement actions. Empirically, the research examines project management maturity in an emerging market, a context, while important has received little attention in the literature to date. Finally, the findings reveal a number of organizational context based drivers and barriers for improving project practice.

3. Literature review

Maturity models are considered to be strategic tools used by senior managers to identify improvement areas and to prioritize improvement actions (Kerzner, 2001). These models originate in the earlier successful application of quality management techniques in manufacturing processes. Specifically, the idea of maturity originated in the process improvement domain here it is believed that processes can operate predictably as controllable systems. Process capability models apply this notion and define the process capability as "the quantifiable range of expected results that can be achieved by following a process" (Ibrahim et al., 2001). Accordingly, process maturity levels are defined using the concept that the expected outcome of a process is affected by the extents to which an organization deploys specific practices in its processes. For instance, the outcome of a statistically controlled process is different from those of uncontrolled processes (Baumert and McWhinney, 1992). The same concept is used by different maturity models to define specific practices associated with each maturity level.

Models have developed over time to go beyond process capability only (Bate, 1995) to incorporate capability and competence of personnel involved in these processes (Hakes, 2007). Some maturity and excellence models have been extended further to specifically address change management requirements in project-driven settings (Project Management Institute, 2003) Organizational project management processes are the focus of such models. Diagnosing and analyzing the organization, designing interventions, and leading and managing improvement actions are common steps in all change approaches (Cummings and Worley, 2009).

Based on the findings of the literature review, Table 1 summarized different steps in evolution of maturity models and their widespread use (Bate, 1995; Cleland and Ireland, 2006; Curtis, Hefley, Miller and Carnegie-Mellon Univ Pittsburgh Pa Software Engineering, I., 2009; Hakes, 2007; Ibrahim et al., 2001; International Project Management Association, 2002; Kerzner, 2001; Y. H. Kwak and Ibbs, 1997; Y. H. Kwak and Ibbs, 2002; Paulk, 1993; Project Management Institute, 2003; Software Engineering Institute, 2007).

Table 1 shows that a wide array of maturity models are available, each of which covers a specific dimension of organization's work, including operational and strategic processes, employees' capability, and elements of the management system. Tracking the history of improvement approaches and their primary area of focus reveals the following underlying themes can be categorized as follows.