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The Project-space Model: Visualising the enablers and constraints for a given project

Bronte van der Hoorn

University of Southern Queensland, Australia

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Abstract

This paper proposes a tool that can be used by practitioners to identify and represent the enablers to, and constraints on, the progress of a specific project: the Project-space Model. The diagrammatic tool is a response to the limitations of universal "critical success factors" for projects, and the calls for a more tailored and contextualised approach to managing projects. The Project-space Model prototype presented in the article embeds concepts from Heideggerian thinking, complexity science, Gestalt theory, and Lewin's Force Field analysis and life-space model. The tool has a 'current-space' and a 'forecast-space' and information regarding the enabling and constraining factors is shown through colour, scale and placement of icons within the 'spaces'. The model is currently being tested through an action research case study. It is anticipated that the model will enable stakeholders to identify where their attention and action is most required in a given project.

Keywords: Managing projects; Critical success factors; Tailoring of project management

1. Introduction

This conceptual paper proposes a tool for identifying and representing the enablers to, and constraints on, a specific project's progress: the Project-space Model. This paper describes the theoretical grounding of the model and its conceptual value, rather than empirical validation of its suitability (which will be provided in a future paper). The development of this diagrammatic tool is motivated by the limitations of universal "critical success factors" for projects, and the calls for a tailored and contextualised approach to managing projects (Payne and Turner, 1999; Shenhar and Dvir, 2007; Shenhar et al., 2002; Söderlund, 2004). The tool provides a framework for thinking about, and then illustrating diagrammatically the factors that support or hinder the progress of a specific project at a given time (now) and potentially in the future. The diagram is designed to reflect the relative impact and time dimensions associated with the factors. Subsequently, the project manager and stakeholders are able to prioritise where their attention and efforts are directed to move the project forward (the "critical success factors" for the given project).

The tool is currently in a prototype phase and this article focuses primarily on the theoretical grounding that has been embedded in the prototype version of the tool and its anticipated value to practitioners. The theoretical foundations chosen reflect contextualised and holistic thinking, and include concepts from Heidegger's (1962) *Being and Time*, complexity science, Gestalt theories and Lewin's Force Field analysis and life-space concepts. Following this conceptual phase of the study the tool will be tested as part of an action research case study. Further iterations of the tool are expected as a result of the trial and the results are expected to be the subject of a future article.

This article begins by outlining the motivation for the study (our research problem) that "critical success factors" are not universal and that there is a need for a tailored approach to managing projects. An overview of the literature regarding the research problem is then provided, followed by the research question for the phase of the study discussed in this paper. A series of theories that inform the features of the prototype model (the theoretical grounding for the model) are then presented. Detailed discussion of Lewin's Force Field analysis is provided as this has significantly influenced the proposed

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model. The Project-space Model is then introduced and its features outlined and the value of the model in conceptual terms is provided. Finally, the next steps in the study (empirical testing) are briefly introduced.

2. Research problem

"Critical success factors" are a dominant topic in the project management literature (Dvir et al., 1998; Müller and Jugdev, 2012; Shenhar et al., 2002). A definition of "critical success factors" can be implied from Pinto and Prescott's (1988) discussion to be factors that are necessary for a project to be successful. To date, there has been little agreement on what are the universal "critical success factors". I would posit (given my subjectivist philosophical stance) that this is because project work is unique and that a pursuit of universal "critical success factors" is problematic. However, this does not negate that those involved in project work need to understand the factors that enable or constrain the progress of their initiative. It is posited that there is no tool in dominant use in project management to support practitioners and stakeholders in specifically representing and communicating these factors (refer Section 3.2 for further discussion), yet there is a need for the capability that such a tool would provide. This study is motivated by the need to provide project practitioners with a tool to enable them to identify and communicate the "critical success factors" for their specific project.

3. Literature review

3.1. "Critical success factors" in project work

There has been significant discussion in the project literature regarding what is project success and what factors enable project success (Dvir et al., 1998; Müller and Jugdev, 2012; Shenhar et al., 2002). Müller and Jugdev (2012) highlight that there are two concepts within this literature: "project success factors" (which I posit equate to "critical success factors" introduced above) and "project success criteria". In this discussion I am focused on the prior: "project success factors" or "critical success factors": elements that can be leveraged to increase the likelihood of project success. Despite the significant amount of literature, a consensus has not been reached on what are the universal "project success factors" (Shenhar et al., 2002; Söderlund, 2004). I do not find this lack of consensus surprising, nor do a variety of authors on this topic (refer Dvir et al. (1998)). Rather, there is recognition that trying to identify universal factors is flawed given the unique nature of projects (Dvir et al., 1998; Shenhar et al., 2002).

In response there has been a stream of literature that has investigated the "critical success factors" relevant for specific industries, locations or other project criteria. For example, the varying importance of "critical success factors" at different stages of the lifecycle is explored by Pinto and Prescott (1988). They question whether "project implementation critical success factors [are] of equal and stable importance over the life of a project, or does their relative importance (weighting) change as the project moves through different stages of completion (Pinto and Prescott, 1988, p. 6)?". Their finding is that "critical success factors" do vary in their importance across various project lifecycle stages.

Holland and Light (1999) propose strategic and tactical success factors for enterprise resource planning solution projects. Chua et al. (1999) use an Analytical Hierarchy Process to identify success factors for construction projects. They find that success factors vary depending on project objectives. They also comment that "practitioners would have composed a set of CSFs [Critical Success Factors] after testing against their experience (Chua et al., 1999, p. 142)". Shenhar et al. (2002) investigate success factors on various technical projects. They also conclude that success factors are not universal and that they are contingent upon the specific type of project. More recently, Thi and Swierczek (2010) consider success factors for infrastructure projects in Vietnam. In introducing their study they recognise the criticality of understanding the socio-cultural, political and economic context of a project, but note that this is largely ignored. Their study found that team and project manager competency and external stability have a positive relationship to success.

Of a different track, but pertinent is the Cooke-Davies (2002) discussion on "real" success factors. Whilst, the outcomes presented are 12 "critical success factors" (and the implication is that these are generally applicable), the article highlights that there are multiple questions to be asked regarding success factors that are relevant to my thinking. He asks: "What factors are critical to project management success? What factors are critical to success on an individual project? What factors lead to consistently successful projects? (Cooke-Davies et al., 2007, Section 2)". I would argue that the latter question assumes a universality that is unlikely. However, the second question suggests towards a recognition that there may be unique "success factors" for *each* project.

3.2. Current methods for identifying "critical success factors", and enablers and constraints to project progress

It is necessary to understand what current tools may be used by project managers to identify "critical success factors", or enablers and constraints to their project progress.

3.2.1. "Critical success factor" research methods

Firstly, with respect to "critical success factors" I argue that "critical success factor" studies are undertaken by researchers with the objective of finding varying degrees of universality in such factors (i.e., from generalisations applicable to all projects, to generalisations applicable to a particular type of project). Subsequently it is not surprising that they use a variety of traditional research methods to identify these factors including questionnaires, interviews and analysis of the literature that enable them to respond to a particular research question. Table 1 provides examples of the methods used in recent studies identifying "critical success factors" pertaining to the scope of their studies.

3.2.2. Gateway reviews, stage gates to identify early warning signs

I also highlight a study by Williams et al. (2012) on early warning signs in complex projects. This study is of relevance as