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# The Application of Project Management Standards and Success Factors to the Development of a Project Management Assessment Tool

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## Abstract

In spite of all that is known about project management best practices, they are often absent from typical construction projects. This has motivated our interest in developing a tool to assess construction project management practices, focusing on the assessment of individual project practices. We will also explore project outcomes and their correlation with project management practices-potentially identifying project management value. Previous efforts have addressed project management assessment. The paper describes examples that assess an individual's project management skills and approaches that examine the project management competencies of organizations. In contrast to these, our focus is on assessing the project management practices that have been implemented for specific construction projects. A central component of any assessment scheme is the identification of specific elements to be assessed (the assessment "targets"). We intend to draw heavily upon established project management standards and project success factors from previous research to provide the specific targets and benchmarks to be assessed. These include the Project Management Body of Knowledge (PMBOK) by the PM Institute, the IPMA Competence Baseline (ICB) by the International PM Association, ISO 9000, and Prince2 by The Office of Government Commerce UK. This paper describes how these standards are integrated into the project management assessment tool. It discusses the theoretical foundations for the project management assessment tool and the methodologies used for developing the tool and for applying the tool to specific project situations.

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## **1. Introduction**

Project management (PM) is a vital and well-developed discipline within the construction industry. Yet, our experience is that weak PM practices continue to be commonplace, particularly among project owner organizations. Poorly managed projects cost U.S. companies and government agencies an estimated \$150 billion per year (Larson & Gray, 2011). That cost may be \$97 billion per year in Canada in public projects only, based on the study by Flyvbjerg (2002) and the investment in public projects from Statistics Canada (2011).

We suggest that two contributing factors to poor PM practices are: 1) project organizations are unaware of how their PM practices compare with best practices, and 2) project organizations are unaware and unconvinced about the value offered by various PM practices. In response, our goal is to develop an approach capable of performing the following:

1. Assess the PM on individual projects to benchmark the PM performance relative to PM standards of best practice.
2. Assess the success of construction projects and relate this to the assessed PM performance as a measure of PM value.

Our approach will take the form of a PM assessment tool that can diagnose the strengths and weaknesses of an organization's PM implementation at the project level and assess the value of PM. Some PM assessment tools currently exist, but these are generally designed to measure either organizational maturity levels or individuals' knowledge of PM. We propose to assess PM at the level of individual projects. A central component of any assessment scheme is the identification of the specific elements to be assessed (the assessment "targets"). Our methodology is to draw heavily upon established PM standards to suggest the specific PM practices that will comprise the targets and benchmark values to be assessed. A secondary source for identifying candidate assessment targets is the body of literature relating to project success factors. In addition to assessing the level of PM practices on individual projects, we will identify project outcomes, and then explore the correlation between levels of PM practices and project outcomes in order to find evidence of the value gained through PM practices.

Having used the PM standards and success factor literature to identify the PM practices to be assessed, we will develop an initial assessment tool (e.g., on-line questionnaire). This assessment tool will then be piloted at a small scale and refined prior to conducting a larger scale trial and data collection activity. These results will be evaluated both to analyze the correlation between PM practices and project outcomes, and to evaluate the assessment tool for further improvement.

This paper focuses primarily on one preliminary aspect of this research - a review of the main sources that used to identify the PM practices to be assessed. The paper first summarizes past efforts to assess PM and to measure the value of PM. The paper then surveys the major PM standards that we are drawing upon and presents an approach for their integration, followed by a review of project success factor research. The paper then provides a brief example of how these PM references are translated into assessment questions.

## **2. Project Management Assessment Tools**

The Boston University Corporate Education Center (BUCEC, n.d.) has an online PM skills assessment. This tool is designed to measure PM technical competencies, personal competencies, and leadership and business competencies. After completing the assessment tool, the individual would identify his or her strengths and weaknesses and training needs. This PM skills assessment tool is oriented toward measuring a person's knowledge and skills. Along the same lines are the PM skills assessment tools by the Atlantic Management Center Inc. (AMCI, n.d.) and the Business Improvement Architects

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