Measuring the Value of Success in Project Management Organizations

Chapter 4: The Findings

From a doctoral dissertation by
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CHAPTER FOUR: THE FINDINGS

Introduction

The purpose of this quantitative correlational study was to investigate what impact project management organizations have as measured by reported project success factors across three sections of project management: project management impact performance, project management presence indices, and financial returns. In addition, the research was guided by the study's three research questions as outlined in Chapter 3.
This chapter discusses the statistical research data and findings associated with the study, and provides conclusions with respect to the fundamental hypotheses asserting what impact project management functions and services have on an organization's reported project success. This chapter presents the overall results from the study and it discusses the results within the context of the research questions underlying the study. Additionally, the chapter presents conclusions concerning the impact of the presence index of project management organization on reported project success, the presence index of project management organization on reported project success by the influence of critical success factors, and the correlation between an organization's level of project management and its actual performance.

Description of Data Collection

Information was collected from the PIPS, hosted beginning June 1, 2004 by the PMI for access by their 130,000 worldwide project management member organizations. Respondents were identified as being an associate project manager, project manager,

senior project manager, supervisor of project managers, or consultant or trainer who performed some type of project management related work on their most recent project. An invitation to participate was posted on several project management local forums, such as the Los Angeles PMI Chapter, encouraging participation in the research study. The survey link was disabled on June 30, 2004.

The efforts resulted in 114 respondents expressing an interest in participation in the study. The results from the data gathered from the survey are detailed below. First, however, the correlation of the data to the research questions and hypotheses was examined.

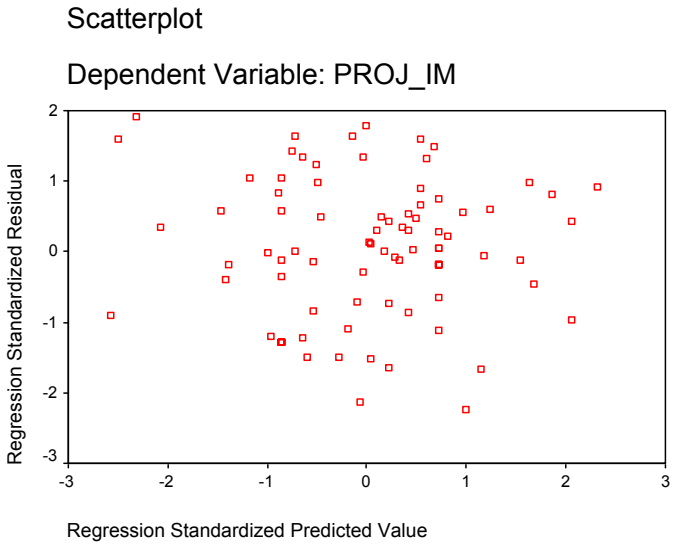
Research Question 1

The research questions are reiterated as they provide directional logic for the study's findings. The first research question examined the extent to which the six indices could predict project management impact. Several outliers (participants 3, 11, and 103 from project impact; participants 3, 99, and 103 from index 1; participants 3 and 103 from index 4; and participants 3, 25, and 103 from index 6) had standard scores above 3.0. These outliers were removed from the data and not included in the analyses because multiple regressions are very sensitive to outliers.

Multicollinearity, which examines the relationship between the independent variables was assessed with the variance inflation factor (VIF); all VIF statistics were in the normal range. Linearity and constant variance were assessed by plotting the residual verses the predicted scores; the scatter plot in Figure 8 demonstrates that these assumptions were met.

Figure 8.

Residual verses predicted values on project impact by six indices.



A multiple stepwise regression was then conducted, where index 6 (consulting) and index 4 (human resources) significantly accounted for 37.7% of the variance in impact scores. Table 31 reflects these regression coefficients and *t*-value statistics for these predictors. This means that consulting and human resources are significant predictors of project impact, accounting for over 37% of the variability in project impact scores.

Research Question 2

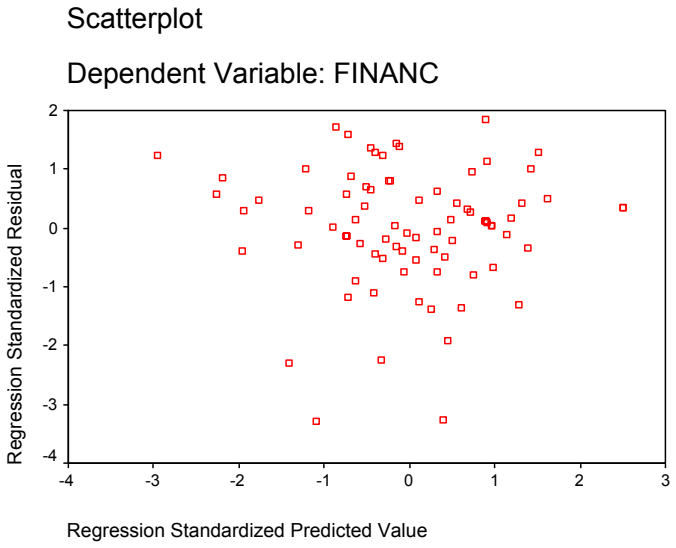
The second research question examined the relationship among project impact, the six indices, and financial composite scores. Table 32 presents the Pearson Correlations that show all these variables have a strong, positive correlation with each other. These relationships indicate that as one variable increases, the other variable increases. For example, as consulting scores increased, financial returns and project impact scores increased.

Research Question 3

The third research question examined the extent to which the six indices could predict the financial composite score. Multicollinearity was assessed with the VIF; all VIF statistics were in the normal range. Linearity and constant variance were assessed by plotting, as shown in Figure 9, the residual verses the predicted scores; the plot demonstrates that these assumptions were met.

Figure 9.

Residual verses predicted values on financial returns by six indices.



A multiple stepwise regression was then conducted, where index 1 (methods, model 1), index 3 (administrative support, model 2), and index 2 (historical archives, model 3) significantly accounted for 46.9% of the variance in financial scores. Table 33 presents these regression coefficients and *t*-value statistics for these predictors.

Summary

In summary, Chapter 4 presented the results of the data analysis. The PIPS was conducted to investigate a project management organization's impact, as measured by reported project success factors across three sections of project management: impact performance, presence indices, and financial returns. This survey tested the specific hypothesis in three areas: project impact performance, presence indices, and financial returns. It is logical to believe that the adoption of project management practices will have a positive impact on the success of a project management organization. The results of this study provided reliable evidence to support this assertion. In fact, results demonstrated that using project management practices increases the likelihood of positive financial returns.

Conclusions must be drawn that the use of project management practices increases an organization's rate of success across three areas of project management surveyed: impact performance, presence indices, and financial returns. Although only 90 participants were needed for reliable regression analysis, 114 participants responded and were analyzed. This contributed to the statistical reliability, and strongly supports success in using project management practices. In addition, several other conclusions can be drawn. First, that consulting and human resources have a positive, significant predictive value on project impact. Second, project impact, financial returns, and the six indices are highly related to each other. Third, project management methods, administrative support, and historical archives are significantly predictive of financial returns.

Conclusions from the Data

From the three research questions, several conclusions can be made. First, consulting and human resources have a positive, significant predictive value on project impact. Second, project impact, financial returns, and the six indices are highly related to each other. Third, project management methods, administrative support, and historical archives are significantly predictive of financial returns. In addition, the expected results from the hypotheses were confirmed. The presence indices of project management organizations had a significant linear influence on reported project success. The presence index of project management organizations had a significant influence on reported project success by the influence of the critical success factors themselves, which are time, cost, and performance (for the project itself) and use, satisfaction, and effectiveness of the project (for the project component dealing with the customer). Lastly, there was a positive correlation between an organization's level of project management and its actual project performance

Recommendations for Use

While results of research are not fully conclusive in terms of the stated research questions, it does seem reasonable to conclude that they point to a number of practical applications for immediate use, and several areas where additional research could be productive. The following paragraphs identify some of the ways in which this research may be practically applied in management.

Identify very specific guidelines for establishing a project management organization's capacity in ways that are most likely to lead to success in improving project management within the organization. For example, include top management support by having the project management organization report to upper management levels by allocating some full-time staffing, which avoids the appearance of a project management organization having a "watchdog approach" rather than functioning as a supportive and facilitating unit.

Providing written guidelines in selecting and prioritizing project management functions and services will likely have a positive influence on the outcome of the project. Provide written guidelines with templates and examples of the various policy documents such as the mission statement, charters, requirements, and the various operating procedures.

Demonstrate how a project management organization can be used as a best practice, and how this best practice was part of a larger organization.

Lastly, make the project management organization a strategic function for both short-and long-term strategic planning purposes of an organization.