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COMPLEX PROJECTS: RAISED VS RECOVERY BASELINES

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Abstract

Management of baselines in complex projects is a challenging process that requires structured control mechanisms. This paper analyzes two key approaches to baseline management: raised baselines and recovery baselines. Raised baselines revise the project baseline to reflect new conditions, while recovery baselines aim to restore project performance to the original plan. This study compares these approaches from various perspectives in complex project environments, discussing their implementation, limitations, and the effects on overall project outcomes. The goal is to aid project managers in determining which strategy to adopt under specific conditions.

Index Terms—Raised Baselines, Recovery Baselines, Complex Projects, Project Management, Schedule Control, Performance Measurement

I. INTRODUCTION

Complex projects are inherently high-risk due to their multi-disciplinary nature, numerous stakeholders, and uncertain environments. When deviations from the plan occur, project managers typically have two options: revise the baseline to reflect current conditions (raised baseline) or take corrective action to return to the original baseline (recovery baseline). Each method carries implications for governance, accountability, and performance measurement.

II. LITERATURE REVIEW

Baseline management has evolved alongside project complexity. Initially, baselines were used simply as static reference points. Over time, they became dynamic tools for control, especially with the integration of risk management and probabilistic forecasting [1].

Recovery baselines are recognized in various project management frameworks as structured responses to performance deviations. Rather than ad hoc responses, they often include contingency planning and predictive modeling [5]. In contrast, raised baselines are emphasized in earned value management systems where rebaselining helps maintain realistic performance evaluations [6].

PRINCE2 and PMBOK reflect different philosophies. PRINCE2 supports exception planning when tolerances are breached, while PMBOK provides more flexibility in updating baselines

[3]. Research has shown that the choice of baseline strategy significantly influences project outcomes [2].

III. PROBLEM STATEMENT

Choosing between raised and recovery baselines is complex. Factors influencing this decision include contractual obligations, organizational preferences, and stakeholder expectations. Misjudgments can result in poor communication, reduced accountability, and inefficient resource usage. Without a standardized approach, organizations may experience inconsistency across projects, weakening governance structures [7].

IV. SOLUTION APPROACH

A structured approach to baseline strategy selection is needed. Criteria include the nature and extent of variation, root cause, ability to recover, contractual impact, and stakeholder alignment [5].

Raised baselines are appropriate when changes are outside project control or when the scope has fundamentally shifted. Recovery baselines are more suitable when variances result from execution issues that are correctable.

Implementation involves formal documentation, change control processes, stakeholder communication, and integration with project management information systems (PMIS). Governance frameworks should define authority levels for baseline changes. Training programs should reinforce baseline integrity and appropriate usage [3].

V. APPLICATIONS

Raised baselines are best used when original assumptions are invalidated—e.g., major scope changes, regulatory shifts, or force majeure. They are common in R&D and exploratory projects [1].

Recovery baselines are preferred for correctable deviations, especially under fixed-price or regulatory-driven environments. They are frequently applied in construction and IT projects with critical deadlines [5].

Hybrid approaches are also feasible. A project might apply a raised baseline for cost due to external factors while using a recovery baseline for schedule due to internal inefficiencies [4].

VI. IMPACT

Effective baseline management reduces disputes, enhances forecasting accuracy, and improves stakeholder alignment [7]. Misapplication of raised baselines may hide performance issues, while poorly managed recovery efforts can increase risk. Organizations with mature baseline practices show improved strategic alignment, resource management, and project outcomes [9].

VII. LIMITATIONS/CHALLENGES

Raised and recovery baselines, though beneficial, lack a universal framework for appropriate selection. This often results in inconsistent practices. Additionally, aligning baseline strategies across complex stakeholder networks is challenging. In large programs, misuse may result in governance breakdowns, forecasting errors, and misallocated resources.

VIII. FUTURE SCOPE

Future research should develop formal criteria for baseline strategy selection based on project complexity and disruption type. AI and analytics offer potential for real-time baseline assessments. Improving maturity models, training programs, and adaptable governance policies will ensure better alignment with evolving project delivery models like agile and hybrid.

IX. CONCLUSION

Raised and recovery baselines offer distinct approaches to managing deviations in complex projects. Raised baselines reset expectations in response to significant external changes, while recovery baselines focus on realigning performance with original goals. A structured, criteria-driven decision framework is essential for effective application. As complexity increases, robust baseline strategies will be a cornerstone of successful project execution.

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