Identification of Reason for Time and Cost overrun of Construction Project: Case studies of two construction Projects in India

Case Study 1
The primary reason for time and cost overruns in the project was the failure to identify risks during the planning stage. The study focuses on regularly monitoring the Gauge Conversion of Railway Line project, which includes activities such as cutting and dismantling tracks, earthwork, and structures. Progress was tracked every 30 days by collecting data on Budgeted Cost of Work Performed (BCWP), Budgeted Cost of Work Scheduled (BCWS), and Actual Cost of Work Performed (ACWP). Using Earned Value Management (EVM), the researchers calculated Time Variance, Cost Variance, Schedule Performance Index (SPI), and Cost Performance Index (CPI). After 240 days of observation, optimistic, realistic, and pessimistic estimates for Estimated Cost at Completion (EAC) and Estimate to Complete (ETC) were calculated. Each month, the authors and the Project Management Consultant (PMC) identified risk factors causing time and cost variances, determined the responsible agencies, and proposed mitigation strategies. The study's findings aim to help stakeholders manage similar projects more effectively.

Case Study 2
According to the Centre for Monitoring Indian Economy (CMIE), delays in Indian infrastructure projects in 2023 totaled about ₹13.7 trillion, with an average cost overrun of 18.5%. This study examines five bridge construction projects in western India to identify and evaluate risks affecting project budget and schedule. The results show that risks mainly impact project schedules rather than costs, and despite time overruns, projects are often completed within the estimated budget. Each project was thoroughly analyzed, and experts involved in the projects were interviewed to determine optimistic and pessimistic durations for major activities. The study uses Monte Carlo Simulation to identify and quantify risks and improve project scheduling. It also estimates opportunity costs for the bridge projects. During budgeting, contingency funds were allocated to cover unknown costs, but due to engineer inexperience and limited time during budgeting, these contingency estimates may have been inaccurate. Estimating opportunity costs can help project owners better predict costs for future bridge projects.

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Location

Virtual via Zoom
(See email for link)

Time

11:30AM -12:20PM