AMMAN ARAB UNIVERSITY

Faculty of Information Technology

TRACE

CONTROL MANAGEMENT

DATE: JANUARY 2, 2026

Project Title: TRACE - Transfer Recognition and Automated Course Engine

Project Start Date:
November 1, 2025

Projected Finish Date:
June 15, 2026

Students

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1. Control Management Overview

This document presents the Earned Value Management (EVM) analysis for the TRACE project at the midpoint of development. The analysis evaluates project performance in terms of cost and schedule variance, providing insights for corrective actions and forecasting project completion.

1.1 Given Data (Assignment Assumptions)

- **Budget at Completion (BAC):** $200,000
- **Project Duration:** 6 months
- **Current Status:** End of Month 3 (50% of timeline elapsed)

Performance Metrics at Month 3:

- **Planned Value (PV):** $120,000
- **Earned Value (EV):** $100,000
- **Actual Cost (AC):** $90,000

2. Cost and Schedule Variance Analysis

2.1 Cost Variance (CV = EV – AC)

Calculation:
CV = 100000 - 90000 = $10000

Interpretation:
The Cost Variance is **positive $10000**, indicating that the project is **under budget**. This means we have spent $10000 less than the value of work we have completed. For every dollar spent, we are getting more value than expected, which represents good cost efficiency.

Status: Under Budget

2.2 Schedule Variance (SV = EV - PV)

Calculation:
SV = 100000 - 120000 = -$20000

Interpretation:
The Schedule Variance is **negative $20000**, indicating that the project is **behind schedule**. We have completed $20000 less work than planned at this point. The project is not progressing as quickly as anticipated.

Status: Behind Schedule

2.3 Cost Performance Index (CPI = EV / AC)

Calculation:
CPI = 100000 / 90000 = 1.111

Interpretation:
The Cost Performance Index of **1.111** indicates excellent cost efficiency. For every dollar spent, we are getting $1.11 worth of work completed. A CPI greater than 1.0 means we are under budget and spending money efficiently.

Status: Efficient (Good Performance)

2.4 Schedule Performance Index (SPI = EV / PV)

Calculation:
SPI = 100000 / 120000 = 0.83333

Interpretation:
The Schedule Performance Index of **0.83333** indicates we are working at 83.3% of the planned rate. We are completing work slower than planned, which confirms our schedule delay. An SPI less than 1.0 means we are behind schedule.

Status: Behind Schedule (Need to Accelerate)

3. Project Performance Assessment

How is the project doing?

At the end of Month 3 (halfway through the 6-month project), the TRACE project presents a **mixed performance picture**:

Schedule Performance:

- The project is **Behind schedule**
- We have completed only $100000 worth of work when we should have completed $120000
- We are working at 83.3% of the expected pace (SPI = 0.83333)
- The schedule variance of -$20000 represents approximately 16.7% less work completed than planned

Cost Performance:

- The project is **Under Budget**
- We have spent $90000 to complete $100000 worth of work
- We are spending money efficiently with a CPI of 1.111
- The cost variance of +$10000 represents cost savings of approximately 11.1%

4. Estimate at Completion (EAC)

Using CPI (EAC = BAC / CPI)

Calculation:

EAC = 200000 / 1.111 = $180000

Performance Analysis

Is the project performing better or worse than planned?

The project is performing **BETTER than planned** from a cost perspective:

- **Original Budget:** $200000
- **Projected Final Cost:** $180000
- **Expected Savings:** $20000 (10% under budget)

5. Estimated Time to Complete

5.1 Duration Estimate Using SPI (Estimated Duration = Original Duration / SPI)

Calculation:
Estimated Duration = 6 months / 0.83333 = 7.20 months

5.2 Time Variance

Calculation:
Time Variance = Original Duration - Estimated Duration
= 6 months - 7.20 months = -1.20 months (approximately -5.1 weeks)

5.3 Analysis

Is the project performing better or worse than planned?

Based on our current performance rate (SPI = 0.83333), the project is estimated to take **7.20 months** instead of the planned 6 months to complete. This represents a delay of approximately **1.2 months or 5 weeks**.

Timeline Impact:

- **Original Plan:** November 1, 2025 → May 1, 2026 (6 months)
- **Current Projection:** November 1, 2025 → June 6, 2026 (7.2 months)
- **Delay:** Approximately 5 weeks late

6. Earned Value Chart

6.1 Chart Data Points

Month	Planned Value (PV)	Earned Value (EV)	Actual Cost (AC)
0	0	0	0
1	40000	33000	30000
2	80000	67000	60000
3	120000	100000	90000
4	200000	200000	180000
5	180000	166667	150000
6	200000	200000	180000*

*Projected based on EAC calculation

6.2 Chart Interpretation

The Earned Value Chart visualizes the relationship between planned work, completed work, and actual costs over time:

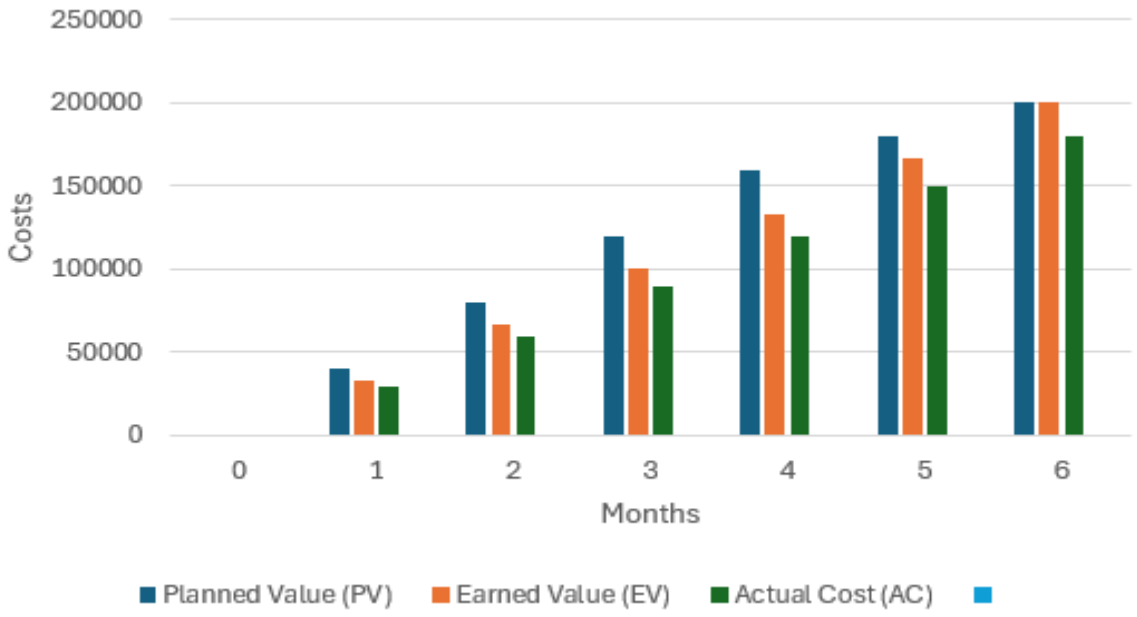

Figure 1: Earned Value Management (EVM) Chart for the TRACE Project

Executive Summary

- Schedule: **Behind Schedule** (SPI: 0.83333)
- Budget: **Under Budget** (CPI: 1.111)
- Projected Cost: $180,000.00
- Projected Duration: 7.20 months