



Centro Universitario de los Valles

Master of Software Engineering

Intelligent Traffic Management System

Status Accounting 1.0

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Define the scales and the criteria to measure changes in the baseline.

Policies

Scales and Procedures for timing, money, effort, team skills, timing.

Timing:

- Evaluation of existing schedule: Review the current project planning in detail to identify phases or tasks affected by the change.
- Identification of additional required duration: Accurately determine how much additional time is needed to implement the change.
- Quantification of change: Calculate in percentage terms the impact of the change on the total project time. This involves determining whether the estimated time extends or shortens.

Scale: 0-100%

0-4% +- than was estimated-> Excellent

5-9% +- than was estimated-> Good

10-15% +- than was estimated-> Acceptable

>15% +- than was estimated-> BAD

Money:

- Analysis of current budget: Thoroughly assess the project's existing budget, considering personnel costs, resources, and software licenses.
- Estimation of additional costs: Precisely determine how much costs will increase due to the requested change.
- Assignment of percentage increase: Quantify the increase in the total budget in relation to the initial budget. This quantification allows for a more precise evaluation of the financial impact.

Scale: 0-100%

0-4% +- than was estimated-> Excellent

5-9% +- than was estimated-> Good

10-15% +- than was estimated-> Acceptable

>15% +- than was estimated-> BAD

Effort:

- Detailed evaluation of current work: Analyze existing tasks and the current workload of the team in depth.
- Calculation of additional necessary hours: Estimate the number of work hours required to carry out the change.
- Assignment of increase in percentages: Quantify the increase in the project's total effort due to the requested change. This provides a clear assessment of the additional workload involved.

$(|time|+|money|)/2 +$

Scale: 0-100%

0-3% +- than was estimated-> Excellent

4-8% +- than was estimated-> Good

9-12% +- than was estimated-> Acceptable

12-16% +- than was estimated-> OK

>16% +- than was estimated-> BAD

Team:

Skills scale: jr, medium, or senior

- Identification of current team skills: Evaluate the technical competencies of the work team and understand their current level of expertise.
- Comparison with necessary skills: Determine the specific skills required for implementing the change and compare them with existing skills.
- Assignment of necessary skill level: Classify the required skill level to implement the change as Junior, Medium, or Senior, providing a clear understanding of the necessary competencies.

Scale: Number of people

1+- than was estimated-> Excellent

2+- than was estimated-> Good

3+- than was estimated-> Acceptable

4+- than was estimated-> BAD

These procedures enable a thorough and structured assessment of each aspect affected by a change in the project, providing an objective basis for the analysis.

Previous Estimation of CRs

CR3 (The client requests that the user experience should be recorded first on the phone and later uploaded into the system database):

- Timing: +14.28% (Additional 2 months)
- Money: +7% (\$70,000)
- Effort: +11% (Moderate workload)
- Team and Skills: +2 Medium – Mobile implementation knowledge

CR4 (Due to a government law, a report of usage by each should be generated monthly, including used days, hours, and travels):

- Timing: +7.14% (Additional 1 month)
- Money: +5% (\$50,000)
- Effort: +8% (Moderate workload)
- Team and Skills: +2 Medium – Experience in monthly report generation

100% Total Project Estimation after CRs Acceptance

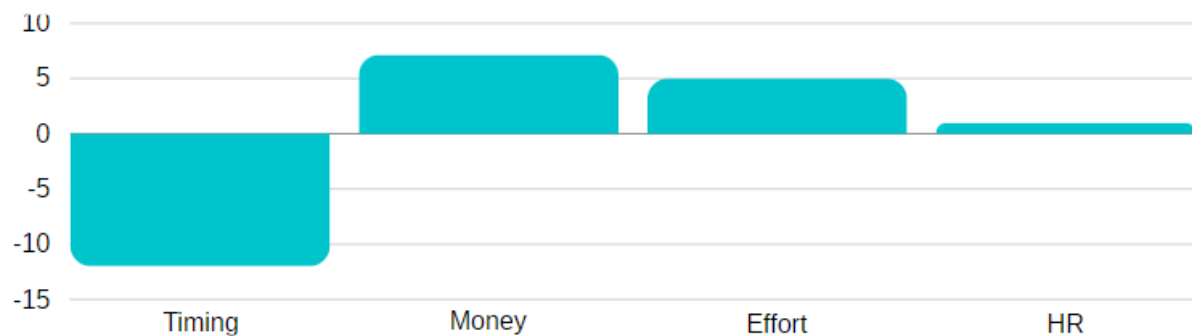
- Timing: 100% (17 months)
- Money: 100% (\$1,120,000)
- Effort: (Moderate workload)
- Team and Skills: Medium
 - 2 Software engineers (medium and senior)
 - 8 Developers (2 jr, 3 medium, 3 seniors)
 - 1 Security expert (senior)
 - 1 project manager (senior)
 - 1 traffic expert (senior)
 - 1 data storage specialist (senior)

Final Results compared to Initial Estimation

- Timing: 88% (15 months)
- Money: 107.14% (\$1,200,000)
- Effort: 105% (Moderate workload)
- Team and Skills: +1 Medium
 - 2 Software engineers (medium and senior)
 - 8 Developers (2 jr, 4 medium, 2 seniors)
 - 1 Security expert (senior)
 - 1 project manager (senior)
 - 1 traffic expert (senior)
 - 2 data storage specialist (medium and senior)

These results demonstrate how each CR impacts the project's baseline in terms of time, costs, effort, and team skill requirements, based on the defined scales and procedures.

Comparative Chart



Comparative Chart of Estimated vs Final Outcome

Conclusion

Considering the previous results, the conclusion could be positive with nuances. Although the project time has been calculated with a slight margin and has slightly exceeded in terms of HR, budget, and required a bit more team effort, the difference hasn't been hugely significant.

The adjustments in the team and skills have provided an improvement in the project's adaptability and capability, which is a positive point. Even though the reference values in terms of money and effort were exceeded, the gained experience and the proximity of the results to the initial estimates can be considered positive in terms of learning and team adjustment for future projects.

In summary, despite the adjustments, the project has managed to remain relatively close to the initial expectations. The acquired experience and the improvement in the team's skills can be seen as a positive aspect for future projects, allowing better planning and execution in similar situations.