



Dynamic Scheduling

Integrating baseline scheduling, schedule risk analysis and project control

But ... what is schedule risk analysis?

"Risk comes from not knowing what you're doing" (Warren Buffett)

Dynamic Scheduling

Dynamic Scheduling is a Project Management methodology to plan, monitor and control projects in progress in order to deliver them on time and within budget to your client. Its main focus lies in the integration of three crucial aspects, as follows:

- **Baseline Scheduling:** Plan your project activities to create a project timetable with time and budget restrictions
- **Risk Analysis:** Analyze the risk of your schedule and its impact on your time and budget
- **Project Control:** Measure and analyze your project performance data and take actions to bring your project on track

In this "**What is schedule risk analysis?**" brochure, the various inputs and outputs of baseline scheduling are highlighted. The two other aspects are summarized in the "**What is baseline scheduling?**" and "**What is project control?**" folders.

What is schedule risk analysis?

Schedule Risk Analysis is a Project Management methodology to assess the risk of the baseline schedule and to forecast the impact to time and budget deviations on the project objectives.

Inputs

Risk profiles. Distributions of the duration estimates for activities (normal, skewed or any other distribution) to define a margin of error on the initial baseline estimates

Simulation settings. Fictitious project progress is simulated using Monte-Carlo simulations to analyze the sensitivity of the estimates and the impact on the project objectives

Outputs

Sensitivity chart. The sensitivity of activity durations, activity costs and resource costs is reported using sensitivity metrics and the impact on the project objectives is predicted

Accuracy charts. The accuracy of these predictions is reported and allows you to validate the quality of the risk analyses for your specific project settings

Action thresholds. The sensitivity metrics should be cleverly used to set actions thresholds and to support better management actions

Why

The importance of analyzing the risk of your baseline schedule comes from the need of any project manager to restrict his/her attention to the most influential activities of the project that might have the biggest **impact** on your initial time and cost constraints. It enables them to take better management **focus** and it supports a more accurate **response** during project progress that positively contributes to the overall project performance.

How

Schedule Risk Analysis can be easily done on a computer using the standard **Monte-Carlo simulation** runs or the advanced **risk distribution drawer** of the stand-alone tool ProTrack (www.protrack.be). For a more integrated baseline scheduling approach, OR-AS relies on the P2 Engine (www.p2engine.com) tools to fully integrate the tools in current or newly developed business systems.

Risk Report

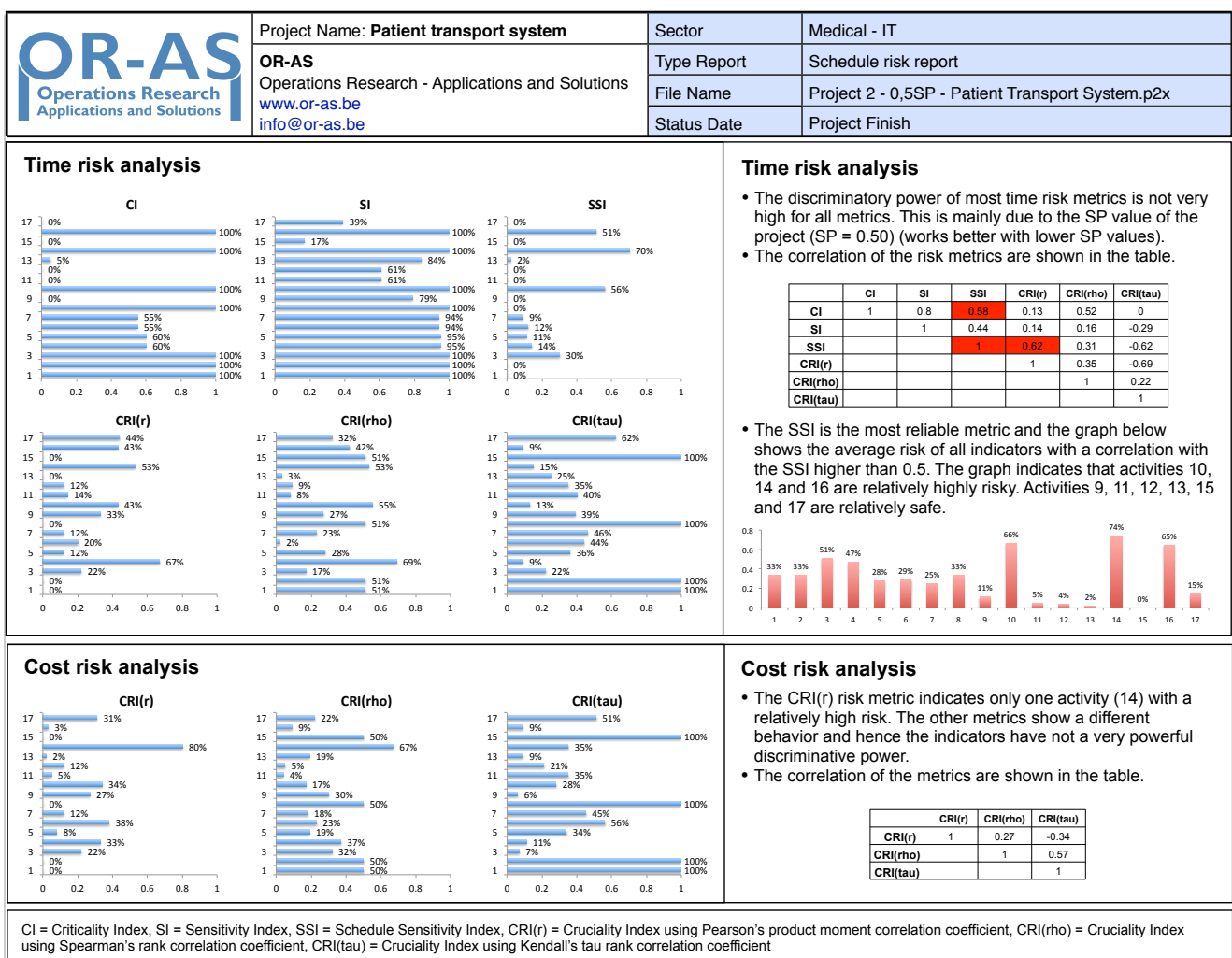


Reports

The schedule risk information is summarized in an example schedule risk report and contains relevant information that can be used to assess the quality of the risk predictions and to monitor and control your project, as follows:

- Time risk analysis: Expected impact of activity duration changes on the total project duration
- Cost risk analysis: Expected impact of activity cost changes on the total project cost
- Resource risk analysis: Expected impact of resource use disruptions on the total project cost

<An example schedule risk report for a patient transport IT system project [Source: www.or-as.be]>



Did you know that...

... it is known that the Schedule Sensitivity Index (SSI), originally proposed by PMBOK, is the best indicator for action thresholds for project control (Omega - International Journal of Management Science, 2010, 38, 359-370).