

'PLANNING FOR EXECUTION - PLANNING FOR RESULTS'

'Do you need a plan to explain what went wrong in the past, or to achieve results in the future'

Projects are dominated by high uncertainty How to create a meaningful project planning?

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The Challenge

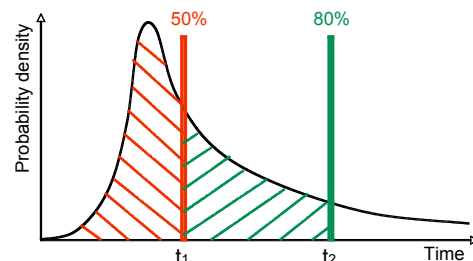
'Please give me a reliable planning', said John, IT executive of a large bank. 'You know very well Charlie that I can't keep the client of our back when we do not meet our promises this time'. 'Yes, I know' said Charlie, the lead software analyst. 'What I do not know is how to deliver the complete software release at the date the client needs it.' 'Be creative Charlie! I need to know before next friday when I have the client board meeting' Charlie mumbles 'not again...' and reluctantly recovers, 'I'll better start right away.'

Does this sound familiar to you? Similar dialogues can be heard in many project driven organizations. The planning of a project somehow never seems to be 'right' and clients want their projects delivered faster. How can we solve this problem?

Current Planning Reality

It is commonly known that people strive to be reliable towards their environment. Therefore when people estimate task durations in projects a certain amount of safety is put on top of the time that is actually needed. How much safety? The amount of safety depends on the uncertainty of the required task, on the workload of the people, and on how much risk they are willing to take of completing the task too late.

In reality therefore task completion over time behaves as a probability distribution around the estimated task time.



Task time estimations; aggressive and comfortable.

The surface below the graph represents the chance of finishing the task on a certain time t_x . In general we find a comfortable time estimate of a task (80% chance of being on time) is at least twice as long as an aggressive time estimate (50% chance of being on time). The time between the two is called 'safety-time'.

But more importantly somehow this safety-time does not lead to projects finishing on time. As we have seen in reality most projects still finish late relative to their original due date. Therefore the conclusion must be that either the safety time embedded in the project was insufficient, or we lack a mechanism to effectively manage the safety time throughout the project.

The believe that insufficient safety time is embedded in a project planning unavoidably leads to an increase of project lead times. Clients will not like or even tolerate this. And reality is even more blunt, more safety embedded in the conventional way will not help. It will make things worse. 'Why?' You may ask yourself.

How do we loose embedded safety?

People do think logically. They understand very well that when they finish tasks ahead of schedule and report this, their next task estimates are likely to be squeezed. This undermines their objective of being reliable. Rather than reporting an early completion experts continue to polish their work - 'gold plating'. This behavior is also known as Parkinson's Law.

A second behavioral phenomena exists. Most probably you will be familiar with the concept of Student Syndrome. When people feel they have enough time to complete a task they do not feel pressure to start when they need to start. So they start the work too late and then Murphy will hit even harder. The more safety embedded in tasks the more time will be wasted.

The third component responsible for losing time in projects is called 'Bad Multi Tasking'. Most people are used to working on more than one assignment or task at the time. Since most people are motivated by progression easy tasks are favored over difficult tasks, tasks that cannot be completed that easily. Bad Multi Tasking is defined as all multi tasking causing the project to delay. This phenomena is fueled by company policies that dictate resources to be fully utilized and by policies that dictate to start projects ASAP. Bad Multi Tasking is devastating for rapid task and project completion.

Putting more safety in task estimates therefore will lead only to more of the above behavior.

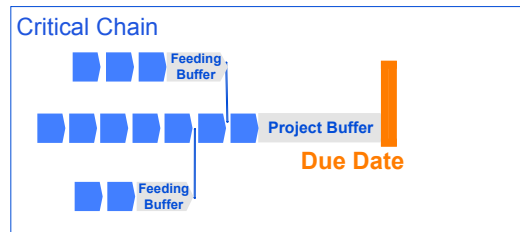
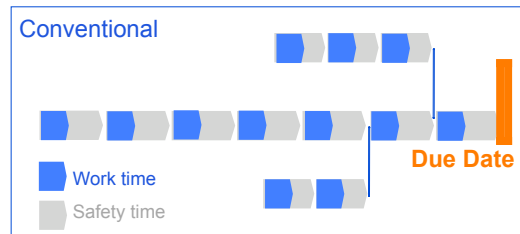
So how can we solve this problem, how can we effectively manage the safety that is embedded already in our project plans? To answer these questions we will examine a conceptually different way of planning - Critical Chain Project Planning.

A Shorter and Reliable Planning. Can it be done?

Critical Chain Project Planning uses the safety that people have put in all tasks of the project at the place where it matters the most: the project end date.

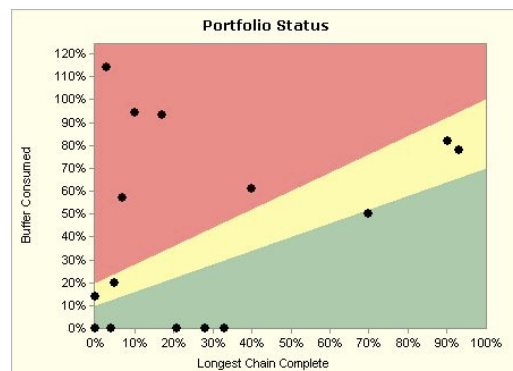
The process is quite simple though not always easy to establish. We first create a conventional project planning with managers and experts on the subject matter. We cut the task estimates in half and put the safety time at the end of the longest project chain - the Critical Chain - to protect our due date. We now have the hidden embedded safety time as a transparent 'project buffer'. The length of the project buffer is 50% of the length of the critical chain.

The planning result is a robust project plan with about 75% of the lead time of a conventional project plan. In the Critical Chain plan task estimates cannot be taken as task commitments and people should no longer be held accountable for finishing a task according to their estimation. Obvious isn't it, since the project is now protected not the tasks.



A conventional planning above with safety distributed over all tasks, often hidden! And a Critical Chain planning with explicit time buffers.

Once in execution the project manager manages the project by eliminating obstacles that delay the project execution. Each delay on the Critical Chain of the project consumes project buffer. Delays outside of the Critical Chain do not impact the project buffer immediately due to the concept of 'feeding buffers'. When the pace of project buffer consumption is higher than the pace of Critical Chain completion the project is in bad condition and will turn red. The project manager is responsible to manage this ratio and to ensure on time delivery.



Concerto Execution view of a portfolio with 15 projects.

Of the 15 active projects above senior management puts their initial attention only at five, the ones in the red!

Benefits of Critical Chain Project Planning

Putting buffers in the right places in your project planning files provides for the following benefits:

1. Shorter project plans, up to 25% which enables faster delivery of value to the client.
2. Focus for the project manager on a limited set of tasks, the Critical Chain.
3. Early warning to senior management for projects in bad health and therefore an improved on time performance.

