CRITICAL CHAIN SCHEDULING & ESTIMATION

A schedule that is too much padded just invites inefficiency and typically, the allotted time will be used up anyway.  Over-aggressive schedules will always be missed, and because of that, they lose their significance, and even de-motivate the team.  The critical-chain method attempts to avoid both those pitfalls.

The concept starts with a "best guess" estimate of the time needed for completing each sub-task. These should be reasonable estimates that have a 50% chance of being realized.  The justification for using the 50% estimates is that statistically half of the tasks will finish early and half will finish late, so that the variance over the course of the project should be zero.  Monitoring is, in some ways, the greatest advantage of the Critical Chain method.  Because individual tasks will vary in duration from the 50% estimate, there is no point in trying to force every task to complete "on time".  Estimates can never be perfect.

In addition to the "best guess" schedule, a second "safe" estimate should be created that has a higher probability, perhaps 90% or 95%, depending on the amount of risk that the organization can accept.  The difference between the "best guess" and "safe" estimates becomes the project buffer.  Experience might suggest a factor for the project buffer, or an estimated safety or buffer can be selected for each sub-task to almost certainly meet the schedule.  That buffer is not added to each of the sub-tasks, but instead, all individual buffers are added together to form a project buffer.  The goal is then to keep this project buffer intact as long as possible, which means focusing on the tasks that still need to be completed, rather than at the ones that are completed already.  This keeps the urgency on the need to meet the project milestones, while allowing for setbacks that inevitably will occur, not on all, but on some of the sub-tasks.

Ray Bryan
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**P.O. BOX 18225 ● RENO, NV 89511 ● PHONE (775) 849-3330 ● FAX (775) 849-3331**
info@synergytec.com
www.synergytec.com