

Critical Chain Project Management

Masterclass 4

Setting Up Your Project,
Getting the Scope Right.



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Masterclass 4



- Scoping Workshops
- Collaborative Planning
- Planning Process
- Planning Workshops
- Done Statements
- Dependencies and Work Sequence
- Task Sizing
- Project Length and good Due Dates

Session Objectives...

- By the end of this session, you should:
 - Understand what a good “content” is and why it’s important.
 - Know who is required to attend a scoping workshop.
 - Be able to design and hold a scoping workshop.
 - Understand what a “good” project plan looks like.
 - Agree who is required to participate in building a good project plan.
 - Be able to design and hold a planning workshop.
 - Be able to produce robust project networks.



Key Concepts



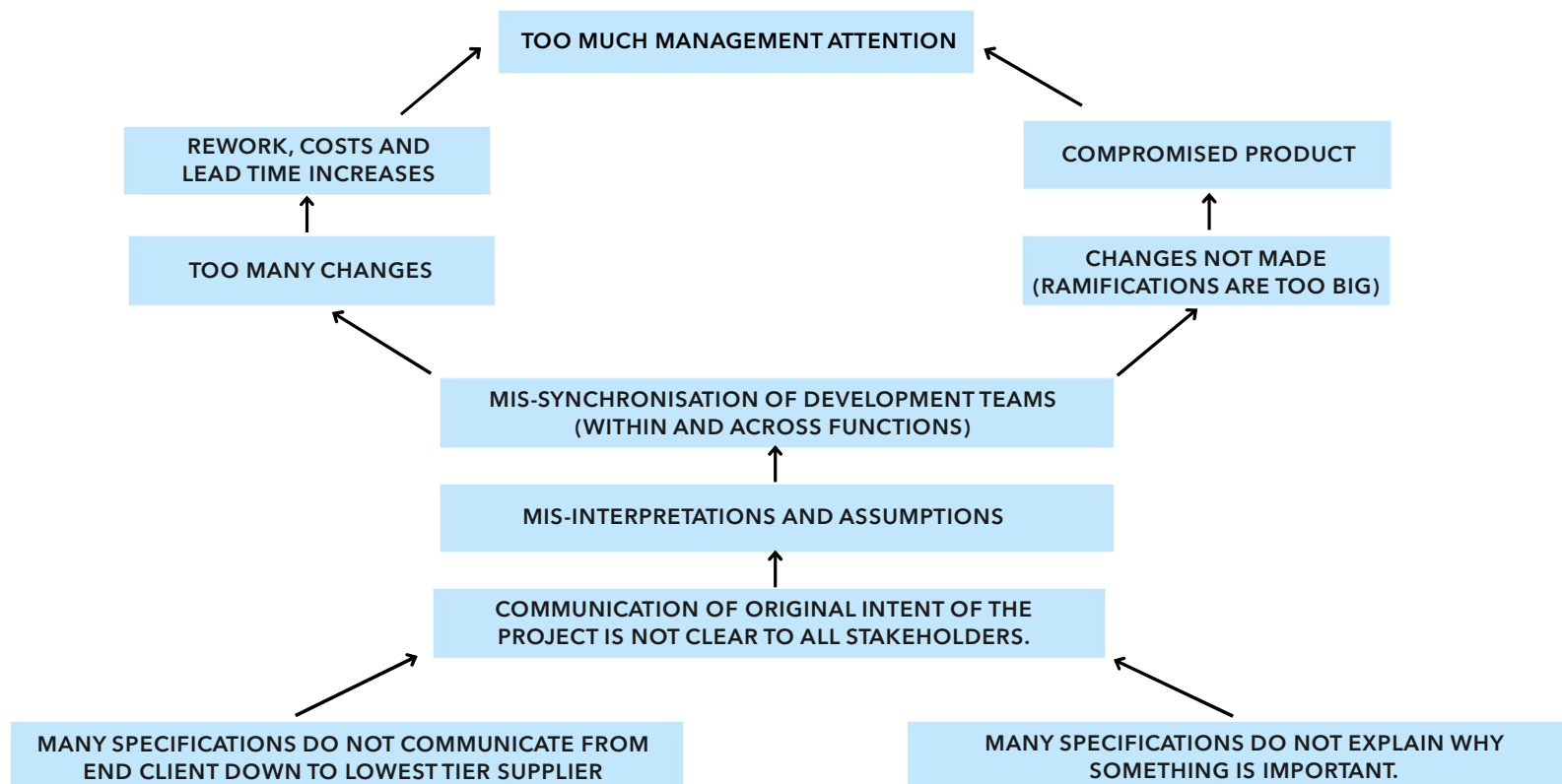
Clear Scope



Robust Planning

Project Scope Alignment





A Significant Part of the Problem...

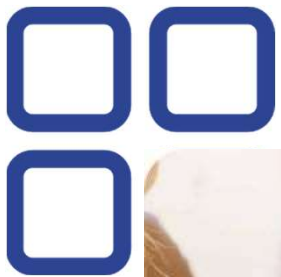
Direction of Solution

- Create a 1-pager that is easy to circulate and use
 - The Project Scope Document
- It must contain the assumptions behind:
 - The need for the project
 - What work is required
 - Why the work being done satisfies the need
- This is carried out at different levels of granularity
 - Level 1 - Project Need
 - Level 2 - Module/Work Package
 - Level 3 - The module level
- The different levels must be completed by the different levels in the organization.



PROJECT OBJECTIVE	<p><i>What is the problem with the current products in relation to the market?</i></p> <p><i>What will having the new product/system enable the organisation to achieve?</i></p>
PERFORMANCE REQUIRED	<p><i>What are the objective and quantative levels which must be achieved in order for the project to be a success?</i></p>
ACTIONS REQUIRED	<p><i>What are the specifications for the product to be re-designed?</i></p> <p><i>How are they met?</i></p>
ASSUMPTIONS	<p><i>Why will these actions achieve the performance requirement detailed?</i></p> <p><i>What elements of reality make it difficult to achieve?</i></p>
FOCUS OF CHANGE	<p><i>What is the major focus of change in the product, sub-system or part that necessitates redesign of it's components (likely to be cost, performance, aesthetics, lead time or size?)</i></p>

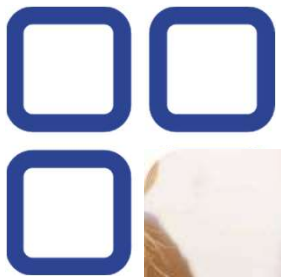
Scope Document



Running the Workshop -1

Workshop Process

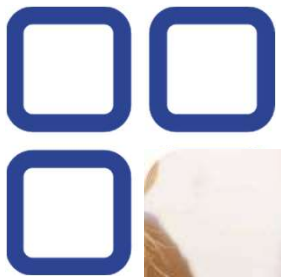
- The aim is to collect individual answers to the questions and consolidate into a “collective” answer.
- The method is to use (digital) whiteboard and (virtual) sticky notes to collect and work on the content.
 - Each question is answered in turn...
 - *Project Objective before Performance*
 - *Performance before Actions, etc.*
- Encourage individuals not to discuss, but to write down their understanding of the answer to each question.
- Everyone can write as many sticky notes as they feel they need - but only one answer per sticky note.



Running the Workshop - 2

Process for Each Question

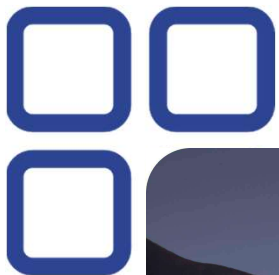
- Facilitator asks each question to the room - one by one.
- Individuals capture their individual answers.
- Facilitator collects the answers and begin grouping similar answers on the board.
- Once all are collected, there is a discussion to agree a common agreement on the content.
- This is then formalised, agreed with the room and this is written and captured.



Running the Workshop - 3

The People

- Workshop Facilitator
 - Role is to test the content and facilitate an agreed verbalization for each entity.
- Workshop Attendees
 - Level 1 - Project Level
 - Project Stakeholders.
 - Level 2 - Work Package / System
 - 1x member from the Project Stakeholders.
 - Work Package Stakeholders.
 - Level 3
 - 1x member from the Work Package Stakeholders.
 - Etc.



After the Workshop

Aims

- Communicate the 1-pager to all stakeholders.
- Communicate the reasons why some things are important.
- Project Stakeholders share the 1-pager with all systems and sub-systems.
 - Explain how the document was produced.
 - Cover the content and how it is to be interpreted.
 - Paying particular importance to the “Why” sections - the Objectives, and the Assumptions.
- If a lower level of content is to be captured - at least one member of the stakeholder team attends each lower-level session.
- Content document is circulated and used explicitly when any decisions on scope are required AND when any new member joins the team.

Key Concepts



Clear Scope



Robust Planning

Critical Chain Planning



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Visual and Collaborative Planning

- Most planning is not truly collaborative.
- Most planning does not truly understand dependencies.
- Most planning does not take capacity into account.
- Most planning does not understand time and safety.
- Most plans need to be Re-Planned.
- Most plans cannot be “relied upon”.
- Many plans are abandoned before the project has completed.

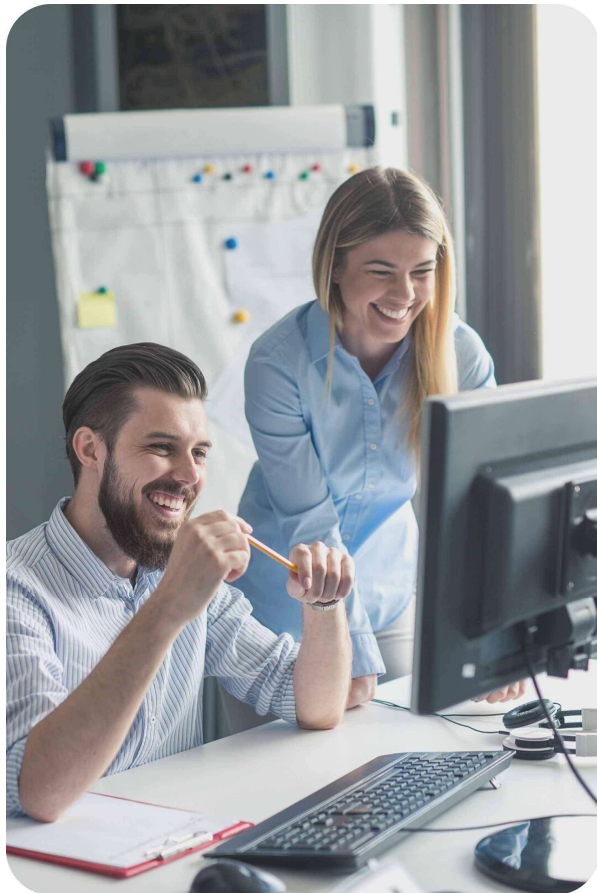




The Process

Collaborative Planning Process

- It is important that plans are not produced in isolation – plans built in isolation often miss key planning assumptions and are not “bought in to” or “owned” by the resources who will be measured against delivering it.
 - **Plans must be built with as many of the Stakeholders and Subject Matter Experts as possible.**
- It is not faster to spend less time in initial planning and then need to rework or re-plan it (often many times...) later in the project – an hour “saved” is usually a mirage.
 - **Project Planning resources commit enough time to attend a collaborative planning workshop to properly plan a robust network (once!).**



The Process

Collaborative Planning Process

- While projects often have a target due date, plans must not be built with preconceived durations and timelines – *“It must be delivered by...”* – this causes projects to be squeezed (or stretched) to fit, and result in plans that are not logical or robust.
- **Plans are built in the following sequence:**
 1. Tasks captured.
 2. Dependencies confirmed.
 3. Durations added.
 4. Due dates and timeline established.



Criteria for a Good Project Plan

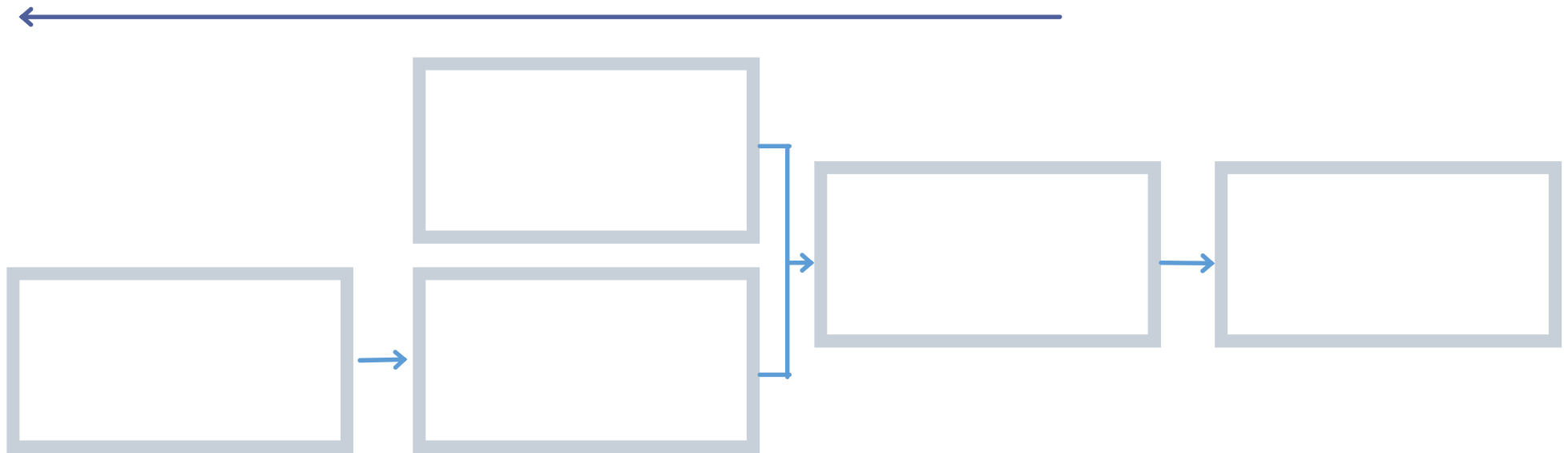
The purpose of a project plan *is to aid and accelerate delivery / execution.*

A good project plan must have:

- Finish to Start dependencies - no floating tasks.
- Tasks and dependencies rigorously checked for necessity and sufficiency logic.
- Tasks described as clear deliverables.
- Good duration estimates.
- Tasks at a good level of granularity - not too big or too small.
 - Large Projects should be chunked into smaller “phases” for detailed planning.
 - Longest chain in the region of 10-20 tasks.
 - Tasks in the range of 5 to 20 days in elapsed duration.

CCPM Planning - Dependencies and Logic

Check for Necessity Logic



Check for Sufficiency Logic



Tasks as Deliverables

Tasks Described as Deliverables:

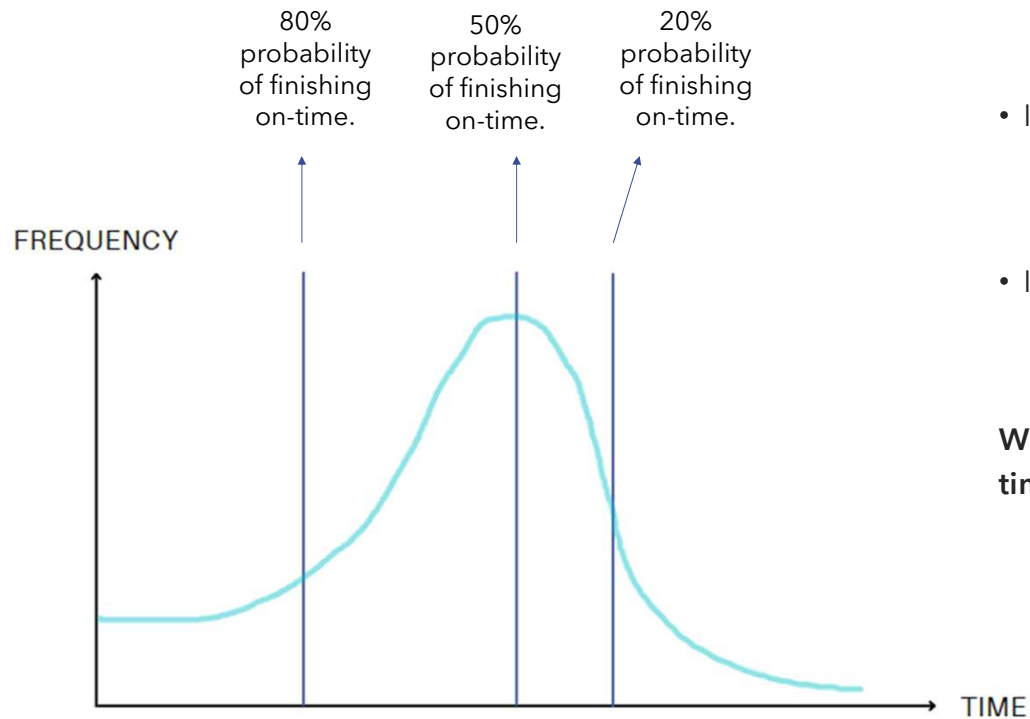
- In execution, it is common for many tasks to be marked as “complete” only to find out later that the output was not what was required.
- A major factor in this is that the people carrying out the task make assumptions about what is required rather than actually knowing.
- Another major fact is project plans tend to be a list of things to do rather than a list of outcomes.
- Tasks are carefully described as *“what it looks like when its done”*?



Task Duration Estimates

- Estimating tasks' durations in projects is difficult – we know we will be hit by variation, but not by how much.
- When managing projects, it is important we are not too aggressive with estimates...
 - This will guarantee we are unable to deliver on our commitments.
- It is also important we are not too pessimistic...
 - This tends to ensure we don't start the project in the first place or deliver a schedule that management will not accept.

Task Estimation



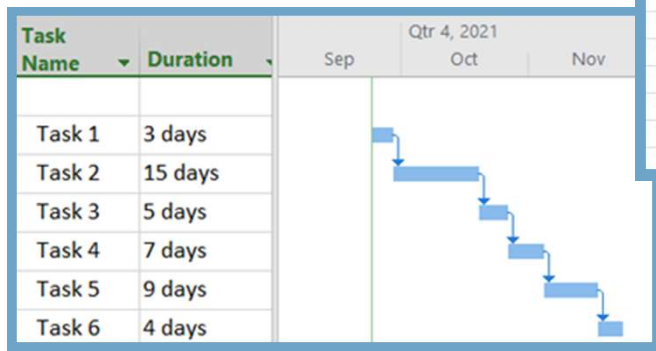
- If we plot the duration to complete similar tasks on a graph, we are likely to get a skewed distribution (right).
 - The skew is caused by a small number of outlier tasks that can take significantly longer than we originally thought (it is unlikely that task will be delivered significantly early).
- If we estimate to 80% probability, then...
 - 80% of the time tasks will be finished inside estimate, 20% will take longer than estimate.
- If we estimate to a 20% probability, then...
 - 80% of the time tasks will take longer than estimate.

What we need is a 50% estimate of probability of finishing on time.

- **Sometimes tasks will take longer, sometimes they will be quicker, but in aggregate they will be on time.**

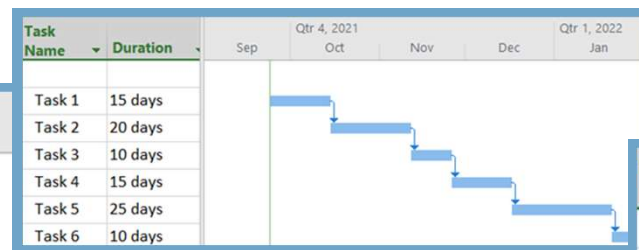
Estimates

Plan made with 20% estimates.



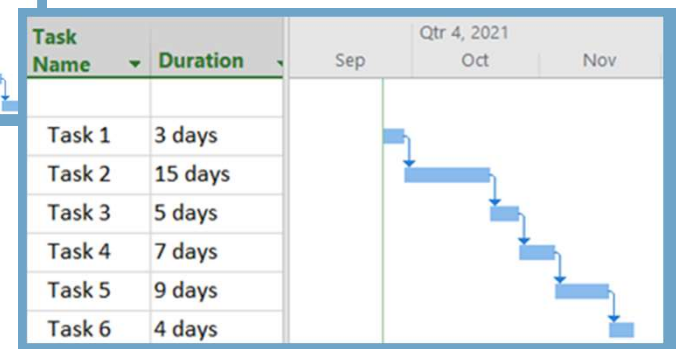
- A plan made with 20% estimates has zero chance of delivering on time.

Plan made with 80% estimates.



- A plan made with 80% estimates has very high chance of success without need for significant course correction.
- However, using 80% estimates for all tasks pads the project with too much safety.

Good plan (approximately 50% estimates).



- Using the 50% estimates gives a plan that has a high chance of success.

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Task Sizing

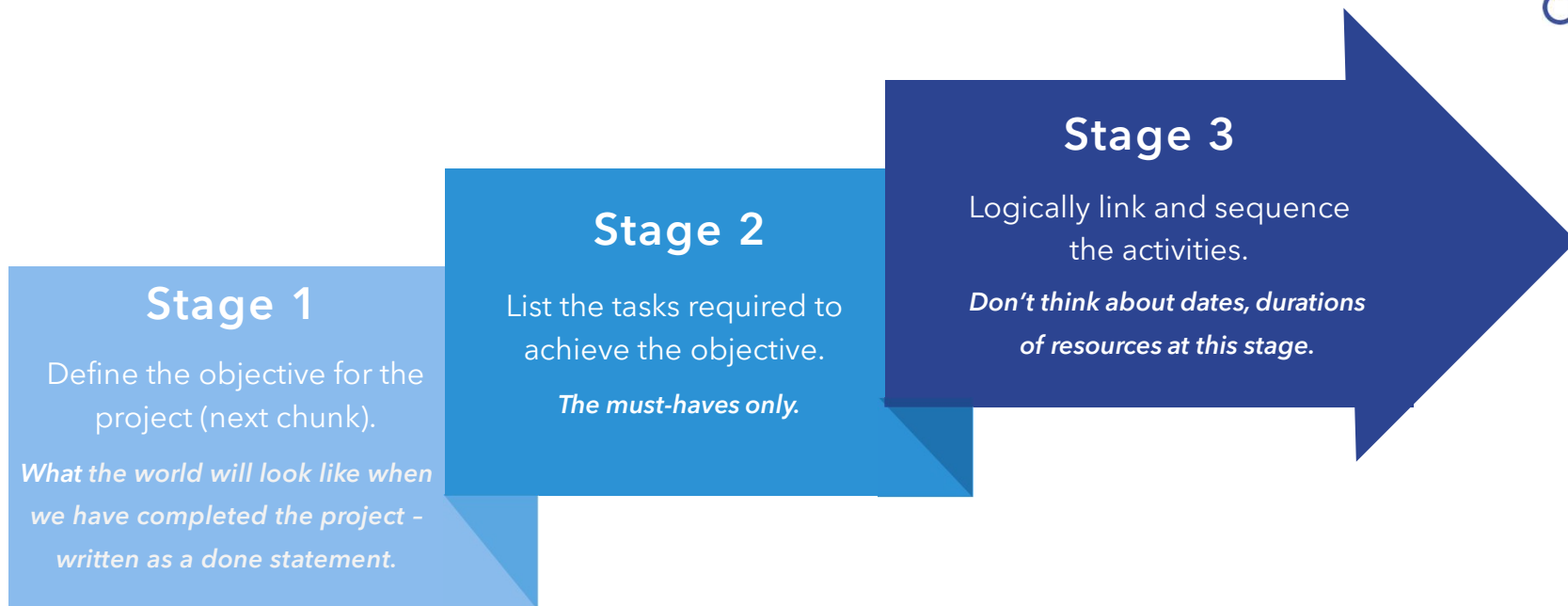
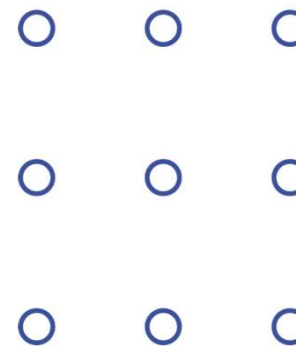


Task Sizing in a CCPM Plan



- As a rule of thumb, a good duration for a task in a CCPM plan is about 10% of the duration of the longest chain.
 - *Note: In CCPM plans we are interested in the duration to complete an activity not the working hours we are going to book against it.*
- A long duration project may, naturally, have longer duration tasks (than a shorter project).
- Roughly, a 6-to-9-month project with task durations that are approx. 10% of the overall duration would have tasks in the range of 10 days to 20 days.
- There should be very few tasks of under 5 days in duration and tasks over 20 days should be an exception.

Creating the Network





Running the Planning Workshop -1

The aim is to produce a network that is challenging but achievable, is bought into by the project team and can be captured in project software later - after the workshop.

The method is to use (digital) flip charts and (virtual) sticky notes to capture the content.

1. Agree the single goal/outcome/deliverable (done statement) for the phase/project being planned
2. Agree that the deliverable is possible in the time being requested.
 - Recording any assumptions made in this.
 - If you can't get agreement that the deliverable is achievable in the duration required, you will struggle to get recovery actions complete.
3. Get the team involved in planning to write out the tasks (done statements) required to deliver the project - on the sticky notes.
 - Usually best to start with deliverable and insert the immediate predecessors ('before this... we need...') - then repeating working from right to left.
 - After each sticky note is written, link the deliverable logically to the plan with hand drawn arrows.
4. Check for necessity and sufficiency.

At this point there will be a robust network of tasks and dependencies.

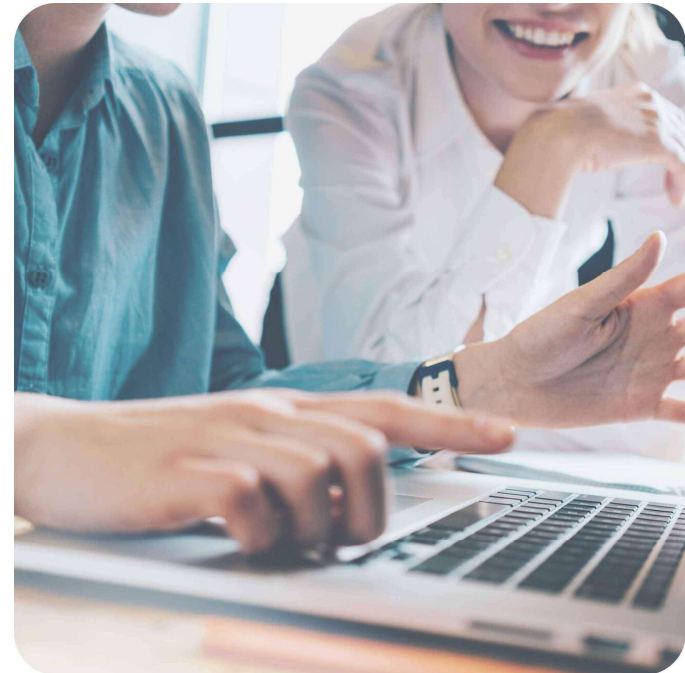


Running the Planning Workshop -2

5. Add 50% estimate durations to each of the tasks – referring to immediate predecessors and successors if context is needed.
 - Review each task in isolation asking how long we think it should take.
 - It is often very useful to capture 3 estimates for each task – people are very good at describing the 20% estimates (best case but low probability) and 80% estimates (worst case and high probability).
 - Capturing the 20% and 80% estimates first usually helps to determine a good 50% estimate.
 - Add these to the corner of each sticky note.
6. Resolve any resource contention – review parallel chains of tasks and make sure any key resource types are not planned to carry out any tasks in parallel.
 - Add in a dependency to resolve any resource contention.
7. Finally, add task “owners” to each task sticky note.

After the Planning Workshop

- Transfer to a project planning tool - MS Project or similar.
- Check that the resulting network meets the required due date
 - if not:
 - Agree revised due dates based on robust project plan.
 - Challenge dependencies and resourcing to shorten the network.
 - Change the end deliverables.
- Confirm the plan, its duration and its due dates with the team and project stakeholders. Then schedule project kick-off in line with the launch date (along with accompanying content documents).





Masterclass 4 - Summary

- Scoping workshops
- Collaborative planning
- Planning process
- Planning workshops
- Done statements
- Dependencies and work sequence
- Task sizing
- Project length and good due dates.