Webinar Q&A

As well as answering the questions that we didn't have time for during the webinar, I have also added a few additional comments to the questions I answered live in section 2.

If any further questions occur to you, please send drop me an email, or you might find the answers in my book, *The Executive Guide to Breakthrough Project Management*, or it's associated website – www.BreakthroughProjectManagement.com.

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1: Questions not answered on the webinar

> How do you manage external dependencies with this method? As the dependences will break with the CCM

> > I assume you are asking about CCPM, though the same also applies to Agile.
> >
> > This was the topic of my previous APM webinar, you can see the recording and the Q&A at https://www.ianheptinstall.com/back-to-the-future/.

In short, it is very difficult to use CCPM (and shared buffers) if you also use fixed-price contracts.

My recommendation is not to use fixed-price contracts, but instead to form a "Project Alliance" (or IPD team) involving the main project supply chain. This is a much more collaborative contracting approach, that aligns the commercial interests of all the parties to the alliance. With an alliance you will have no contractual obstacle to using CCPM or Agile to improve the project flow, because everyone will benefit from a better project.

Even without CCPM, using a project alliance would be my default on construction and capital projects.

Do you think the application of critical chain creates some challenges for WBS development?

It shouldn't do, although this will depend upon how you break your projects down into work packages, and what you use your WBS for.

CCPM takes the view that the most important work breakdown is based on the sequence and flow of the work that needs to be done. Make the project flow better, and the war is almost won!

CCPM starts with a logically-linked dependency network (often called a PERT). Most CCPM software I know forces you to do this – a good thing I suggest! This has been found to be a crucial activity (which is the case whether you use CCPM or not).

(By the way, something I didn't mention is that the main difference between the critical chain and the critical path, is that the CC always takes account of resources, and will not sequence parallel activities using the same resource. By default CP doesn't prevent this.)

I recommend you start at the end point and work forward in time to the beginning – this usually gives a better programme, though some people find it strange at first. It helps ensure you don't miss important work, and they you don't include unnecessary work. There is a good step-by-step process for this in Kendall & Austin's "Advanced Multi-Project Management".

This planning and breakdown exercise is a great teambuilding process, and most experts think it is best done by a team in a large room with post-its, and not in a back office on a computer. Only once it is agreed it can then go on the computer.

CCPM itself is more an execution tool than a scoping tool. CCPM experts have developed other related tools that help in scoping a project, based on what needs to be achieved to achieve the desired business benefits and outcomes. These are known as "Strategy & Tactics trees", and "Goal Trees". These are

closely linked to the way a WBS is used, and they bring a further level of rigour that might be useful on large and critical projects. They are often used to manage corporate change projects.

CCPM will also have an impact on how you manage costs, and uses a cost buffer, where cost management is important.

What book / training aid would you recommend reading to understand more about CCPM?

See my detailed answer in section 2 to the question" Who are the best providers of ccpm courses?"

2: Questions answered on the webinar

How should you calculate the amount of Buffer required by a Project under CCPM? Is there a standard % to apply?

There are three main methods used. All are based on the idea that the buffer should be about 50% of the time in the upstream chain it protects – making the buffer about 1/3 of the total duration, and the work (with task estimates based on a 50% probability of achieving) making up 2/3. This is how I scaled the simple graphics in the webinar.

This 2/3:1/3 is both a general rule of thumb, born out over many thousands of projects, and can be demonstrated statistically. You can get more analytical, but most experts have come to the conclusion it isn't worth it.

Method 1: If you are doing a ground-up estimate, and the task owners understand CCPM and trust that their estimates will not be taken as firm commitments against which they will be measured, they you can build your plan based on the average task durations, assuming uninterrupted, full-time, focused effort. You then logically link them, schedule to prevent resource contention, and then add buffers of 50% to the end of each feeding chain and the whole project.

Method 2: If you have an existing schedule that has been drawn up using traditional critical path approaches, then a quick-and-dirty start is to simply cut the task durations in half (removing local safety), and then add a buffer of 50% of the remaining duration of the chains. The simple example I showed on slide 10 in effect did this. The problem here is if the project team doesn't understand CCPM – it looks like you are simply cutting their estimates and you don't trust them. This isn't the case, and you are just using a quick-and-dirty method to get a good enough plan, and realistic end date. But it is important the team understands and trusts the project manager. Also this

method can catch you out with tasks like concrete curing, paint drying, or supply lead time, where you should do a more detailed assessment to split the original estimate into "Aggressive but Possible" and "Highly Probable" durations, and not just cutting it in half.

Method 3: This is where a project lead-time is dictated, for example by a contract. You then make the sequence of work = 2/3 and the buffer = 1/3 and make a start.

Who are the best providers of ccpm courses?

Me of course ;-)

If you are interested in implementing or piloting CCPM, I think the easiest way is to be trained on-the-job. I can do this, or you can work directly with a CCPM software provider (some of whom might use me dependent upon where you are based). Learning is much easier with a real need to learn, and software helps embed the practices.

This is the most common way people learn CCPM. They get a general idea about CCPM from presentations like this webinar. They talk to someone about piloting/testing the idea and get some implementation support from a software provider and/or independent consultant.

CCPM has not yet gained the critical mass of demand that other methods have, so training is not as readily available – most towns seem to have courses in Lean or Agile these days!

Otherwise, books are probably the most accessible training tools. "Critical Chain" by Goldratt is a great introduction, then you can do a lot worse than reading "Critical Chain Project Management, 3rd Ed" by Leach, and "Advanced Multi-Project Management" by Kendall & Austin.

If you want to find out about the basic idea, you can go to the "horse's mouth" and watch some of the training materials developed by Eli Goldratt. This will give you a general understanding about how the method works, but not much about the nitty-gritty of planning, scheduling and controlling resources. It is quite low cost, though looking a bit dated now. You can buy access here - https://www.toc-goldratt.com/en/product/n-and-s-series-4-a-look-into-the-rules-of-project-management.

There are very few public courses. And the training I know of, is mostly as part of a wider topic – such as Washington State University's EM526 online course on Constraints Management.

This lack of easily accessible training is one reason that I will be developing a programme on my online learning and coaching platform about CCPM.

Once trained, there is a widely accepted certification on CCPM, managed by the TOCICO (www.tocico.org, but that is more for subject-matter experts rather than practitioners – the exam itself is 8 hours).

Putting in buffer, means the cost will increase, and directors will instantly cut it out if you tell them about it. How do you get over that problem? Don't tell the directors? If so that's not being honest...?

Firstly, a buffered CCPM schedule should be shorter and less costly than a traditionally-scheduled one. It is not longer or more expensive – sorry if I wasn't clear on this.

And I also agree that dishonesty, or even hiding buffers, is also not a good philosophy, especially if you are looking to change a process for the better.

Contingency to protect against variability and uncertainty is always embedded into estimates, especially where project managers hold people to account for their task estimates.

What CCPM does is it makes these buffers visible and shared. They then become a great tool for management, reporting and control. They are NOT waste or padding. They are vital protection against uncertainty.

Once directors understand this, there is not much of a problem, though they often need close coaching to help them change their habits! If directors don't want to understand how CCPM works, and their role in making it work, then maybe they shouldn't be given managerial responsibility and if you cant change them, get as far away from them as you can! Or keep your head down and do things their way.

You can also get them to watch this 12-minute video by Dr James Holt, of Washington State University. https://youtu.be/ARyzvWHQMDY. Then have the discussion about whether buffers are needed.

I note that the latest PMI PMBoK 6th edition has removed references to CCM. Any insights into why this is the case?

I didn't even know – not following the PMI very closely.

Having asked around, the best I can get is a claim it wasn't that popular. If true, this would say that appearance in the BOK is more influenced by popularity than demonstrated performance! Reminds me of Henry Ford's quotation "If I had asked people what they wanted they would have said faster horses".

CCPM is still a niche method – the reason I offered to do these APM webinars was to spread the word about what I think is a much better method.

I know most CCPM users won't be too worried, because they know what it does for them and their businesses, and are more than happy to keep quiet about it! But it will make it harder for some organisations to get to the stage of piloting CCPM. This may impact some of the software providers.

I know the PMI is very popular, and the PMP qualification is probably the market leader. I also know companies that learned the hard way that following the PMBOK doesn't make your projects better if you are reasonable to start with.
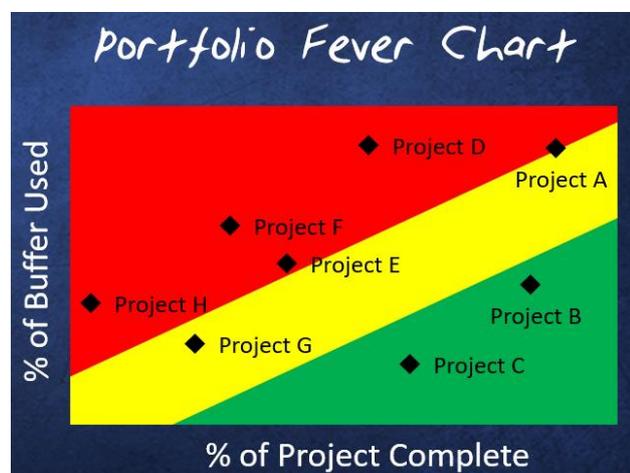
In my book I quote a discussion with an executive at a $4billion-sales software company. They put their teams through PMP courses, and it made no noticeable difference to performance – it just cost a lot and took 14 months. Within 6 months of moving to CCPM their development team was completing 14% more projects, with the average lead-time down 20%, and they had eliminated "angry customer escalations" which were taking up a large part of the board's time prior to CCPM.

Interesting that in the PMI's annual Pulse of the Profession survey, up to 2016 they included CCPM in the list of methods used, and in that survey if was rated as more commonly used than Agile project management, Lean and Scrum, and more people used it sometimes/often/always than earned-value. But in 2017 and 2018 they didn't even list it as an option in the survey. I don't know why that changed either.

Is it possible to use the Fever Chart to track a portfolio (not just individual projects) over time? E.g. the last 6 months? At what point does it become too cluttered and inaccessible?

Definitely, and this is a very common use. Slide 13 showed this simplified version:

To keep the clutter down it only shows the current status, and not the trend from day 1, as you would see on the project version. It can easily take quite a lot of projects, especially on software that allows filtering and zooming.

Portfolio Fever Chart

% of Buffer Used

Project D
Project A
Project F
Project E
Project H
Project B
Project G
Project C

% of Project Complete

I can't see much benefit showing the whole portfolio historical trend, and yes this would get messy! I'm also not sure what information it would give you

You can always drill down into an individual project for details, and common issues are logged as part of the continuous improvement process, and will be found elsewhere.