Daniel Foster

Managing Partner

skeiny
passionate about projects

Monte Carlo again?

Retrofit

Is it me?

Step 0

Time contingency in projects a missing factor

ProjectChat 2019

Thought Experiment

Project cake

Scope: bake a cake to feed 20 people
Cost: $200
Time: 2 days

Schedule

Doing work

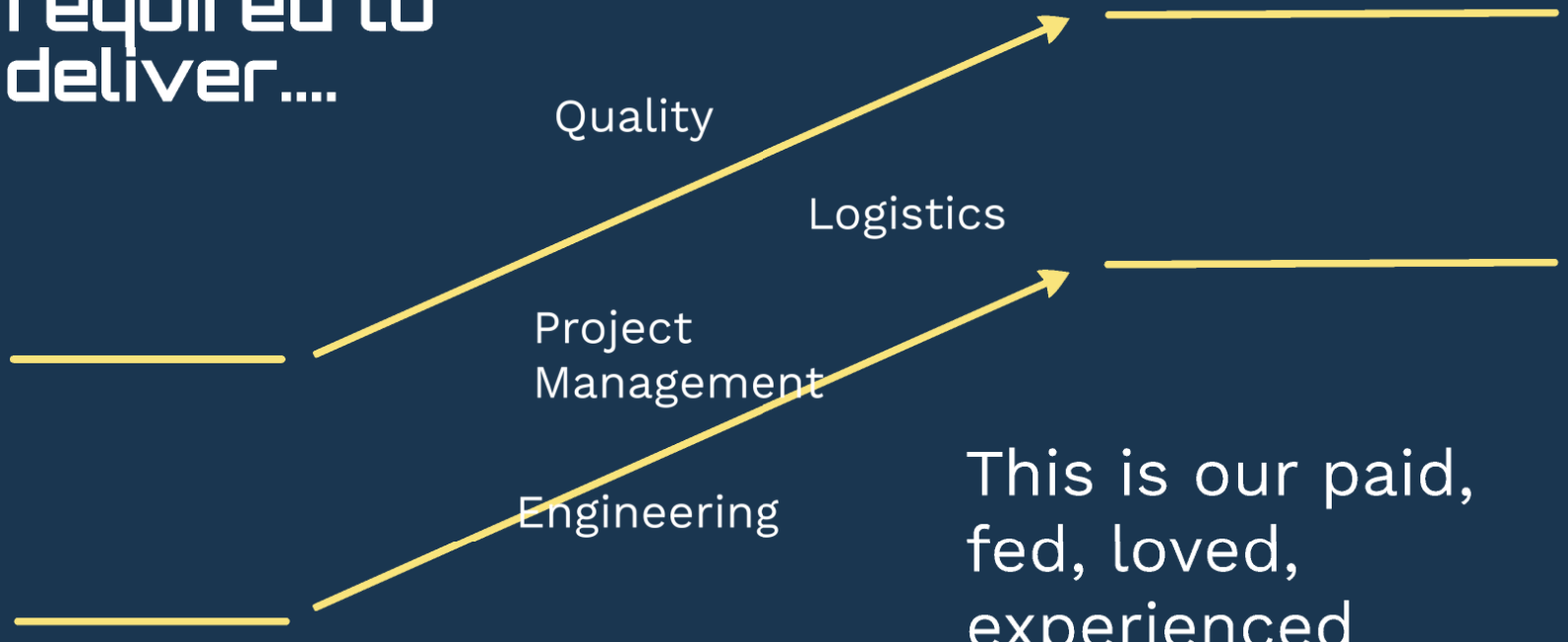
Inputs to the work

For this experiment let's summarise all the project management knowledge into two main ingredients;

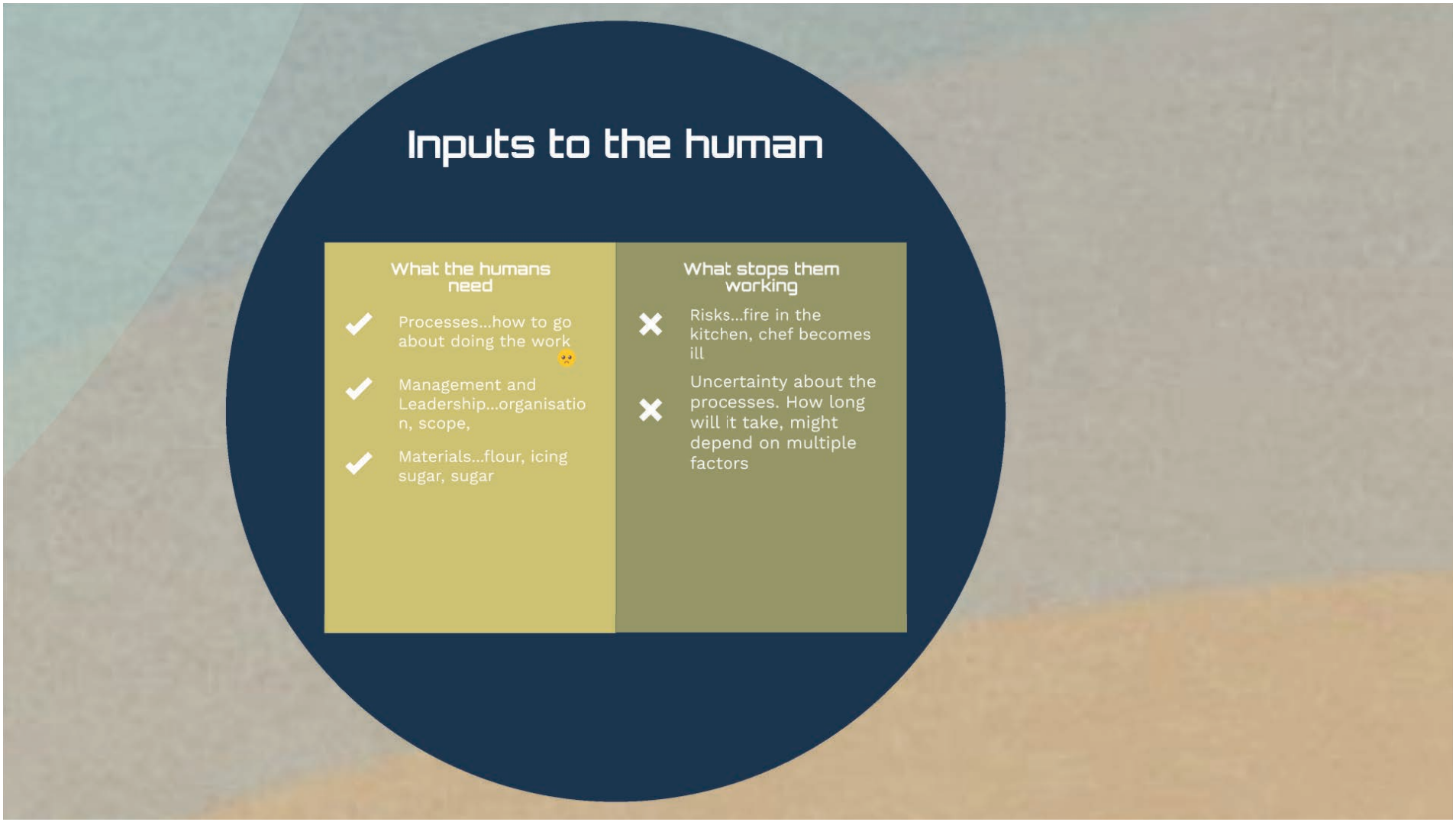
- Doing work (human capital)
- Inputs to the work (inputs to the humans)

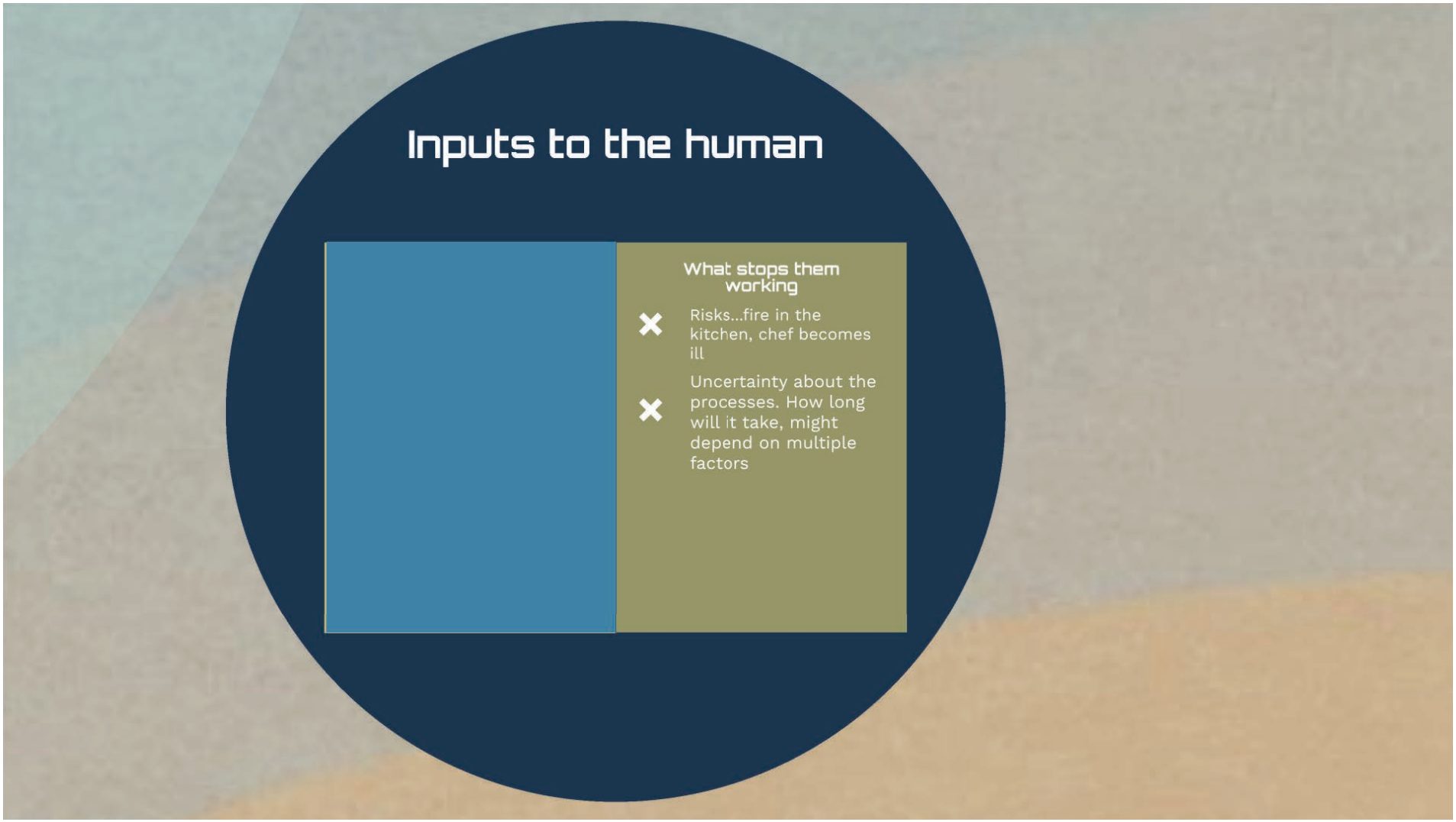

Project Cake time breakdown
TASKS
Day 1
Day 2
Define "Cake"
Shop for ingredients
Prepare Kitchen
Bake
Eat Cake

The humans perform the work required to deliver....



This is our paid, fed, loved, experienced chef(s) sitting in a void


Inputs to the human
What the humans need
Processes...how to go about doing the work
Management and Leadership...organisation, scope,
Materials...flour, icing sugar, sugar
What stops them working
Risks...fire in the kitchen, chef becomes ill
Uncertainty about the processes. How long will it take, might depend on multiple factors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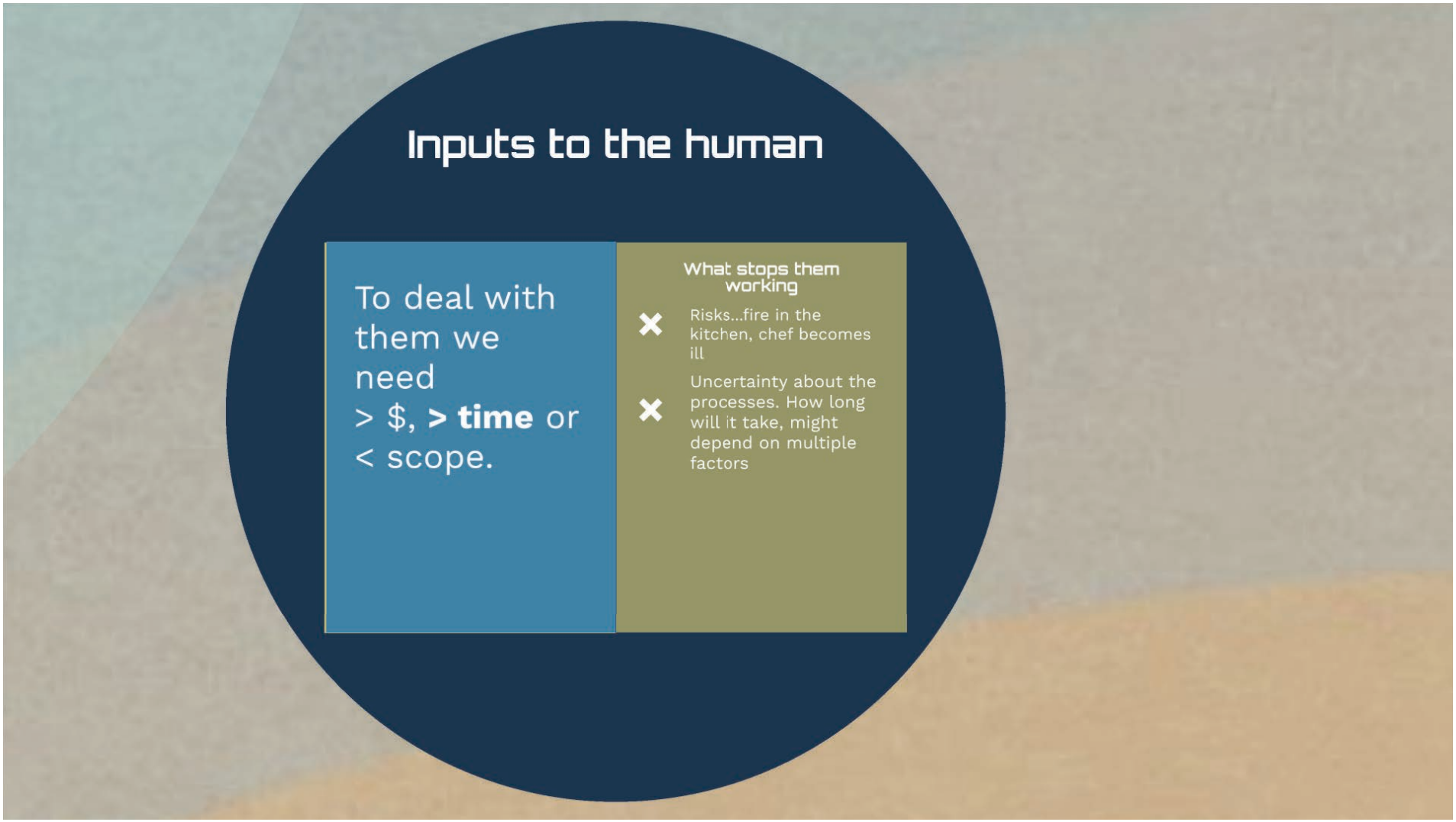
Inputs to the human
To deal with them we need
> $, > time or
< scope.
What stops them working
Risks...fire in the kitchen, chef becomes ill
Uncertainty about the processes. How long will it take, might depend on multiple factors


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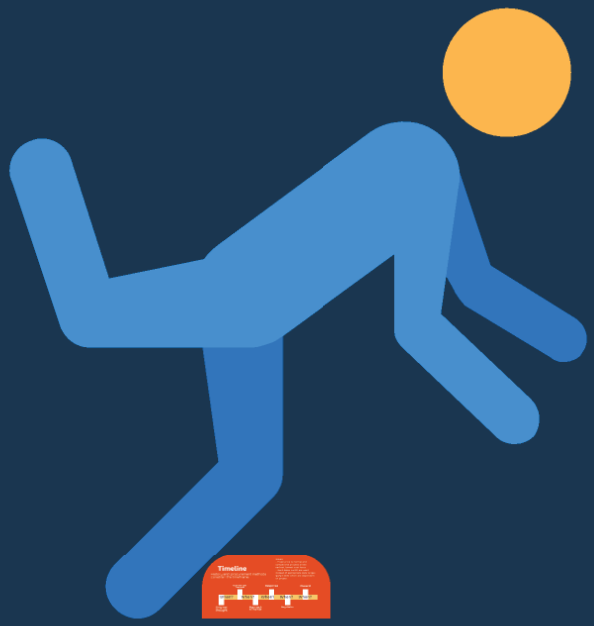
Where is the margin?

Let's take a journey into some of the reasons that I have found to be behind the missing margin in a project schedule.


Weekly calendar
Project
Monday
Open schedule and look at critical path search for margin tasks. They are here somewhere, it can't just be me.
Tuesday
Pick at a couple of tasks to find margin. Why is it so hard to find! This can't be this difficult! They should have put it in!!!
Wednesday
Perhaps we don't need to do all of this critical work? Let's take some out and replace it with margin :)
Thursday
There is no margin and we are doomed to miss our dates
Friday
Another project without margin...moving on

Before we start

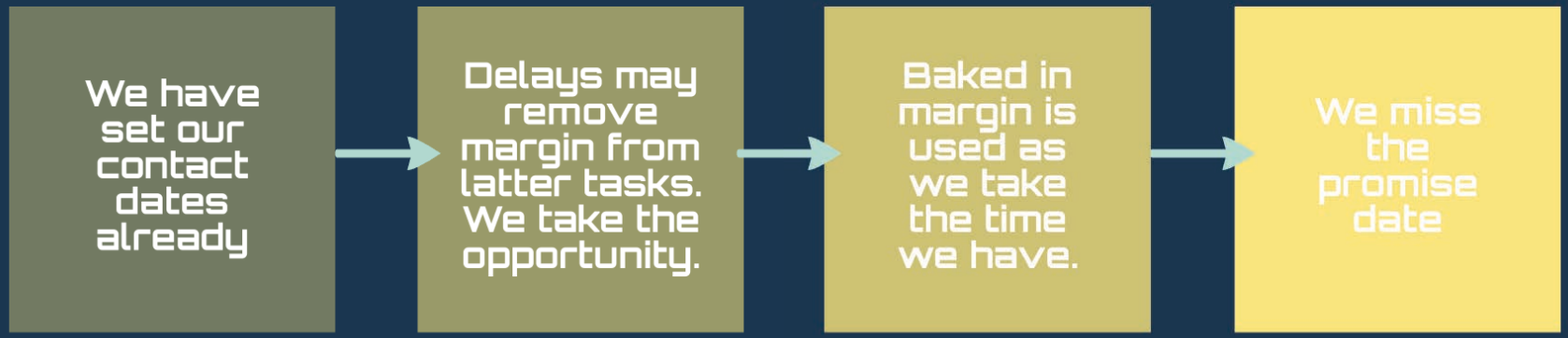


Timeline

History and procurement methods constrain the timeframe.

Issues;
- Fixed price is normal and competitive process drives earliest, lowest cost focus
- Hard dates Jun20 are used instead of appropriate date ranges Q2/Q3 2020 which are dependant on project
.....

In execution



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Opportunities to retrofit time contingency into you plan

1. Skim and squeeze
2. Replanning
3. Reprogramming
4. Scope/Contract changes
5. Follow-on projects. Program/Portfolio

Requires executive/ functions to agree.

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Other options

Here we can discuss a few options and build upon different concepts to help us determine schedule reserve.

Monte carlo analysis isn't the only way to figure in schedule margin for our project.

Using experts to decide on how much time should be put aside for the project. Inputs from the risk register, previous projects and project execution plan are taken into account.

Issues;
- Ensure the use of SQEP - Suitable Qualified and Experienced Personnel.
- Consider biases in place

Experts....

low risk, simple projects


Factored Risk
We utilise the risk register and the estimated impact durations to establish the margin needed.
Risk 1
Oven Fails - 4days @ 5%
Risk 2
Head Chef gets ill - 1day @5%
Risk 3
Not enough ingredients - 2hr @ 10%
Risk 4
Guests cancel - 1day @2%
Issues; we need to do the work to link to an activity/milestone. PLUS the risks become additive when may not both occur.

Three point

medium risk, complicated projects

Again we deploy SQEP however this time we take estimates for each task/package of a optimistic (best case), likely and pessimistic (worst case) duration.

Issues;
- Ensure the framework is right (what is opt/pess)
- Ensure team is knowledgeable about uncertainty in estimating v risk

Consider using;
- Ranged estimates. High confidence therefore pessimistic close to likely.
- T shirt sizes. Task is easy, medium, hard (best for similar scopes of work)
- Multiple SQEP

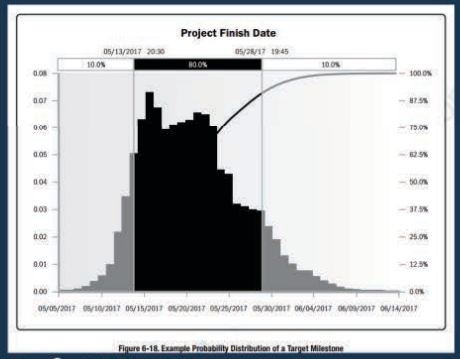
Monte Carlo

high risk, complex projects

The sledge hammer of risk analysis and most wholesome. It is the most complicated due to the need for specialist tools (excel gurus don't need that), knowledgeable personnel and good quality schedules.

Usually uses the 3 pt estimates plus risks to produce a statistical analysis of when a task will occur in a project.

Issues;
- Do you need to create a summary schedule
- Ensure there is a seperation of risk impacts and uncertainty



Ref. PMBoK

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Thankyou for spending some time with me today.

I am hopeful this presentation helps you in your project delivery outcomes.

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