

What about Risk? Moving Beyond the Triple Constraint

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The Iron Triangle

Performance
(Scope)

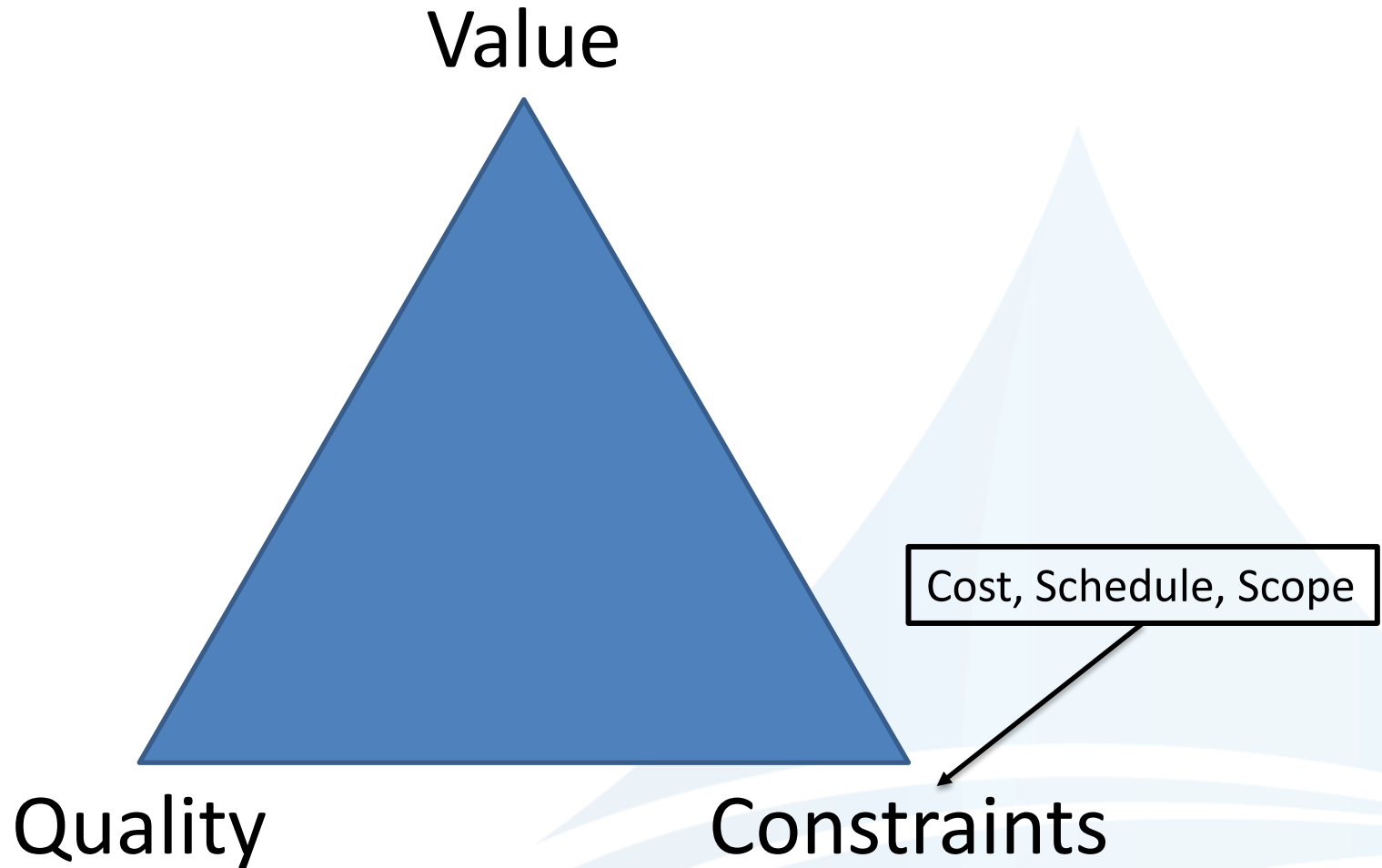
Don't forget about.

RISK

Cost

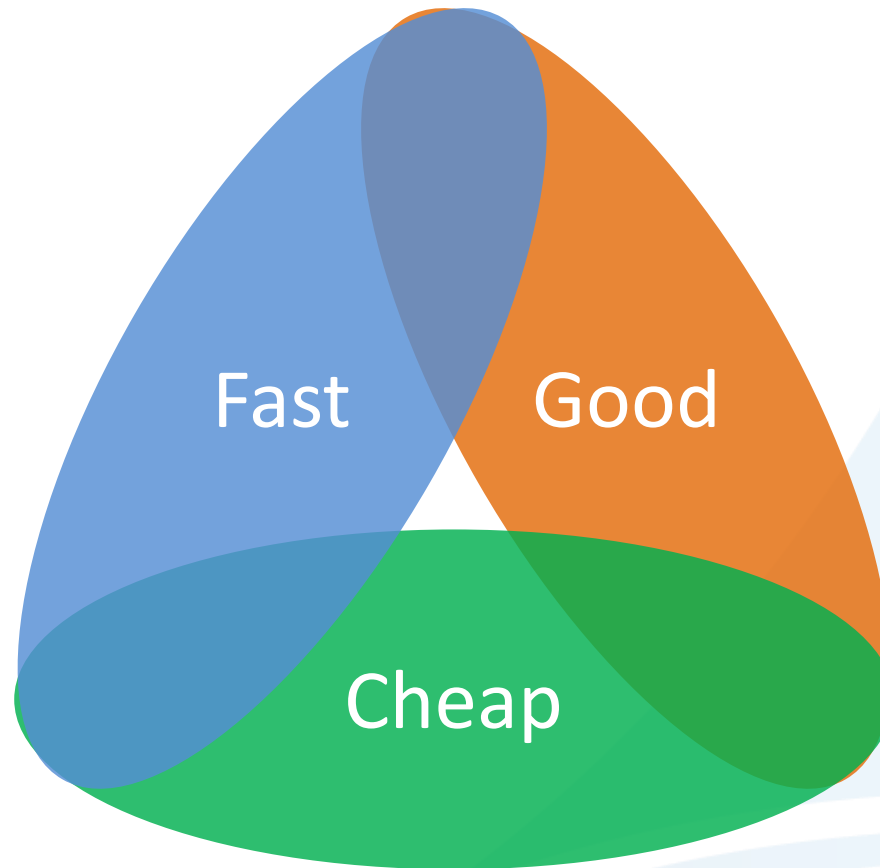
Schedule

The Agile Triangle

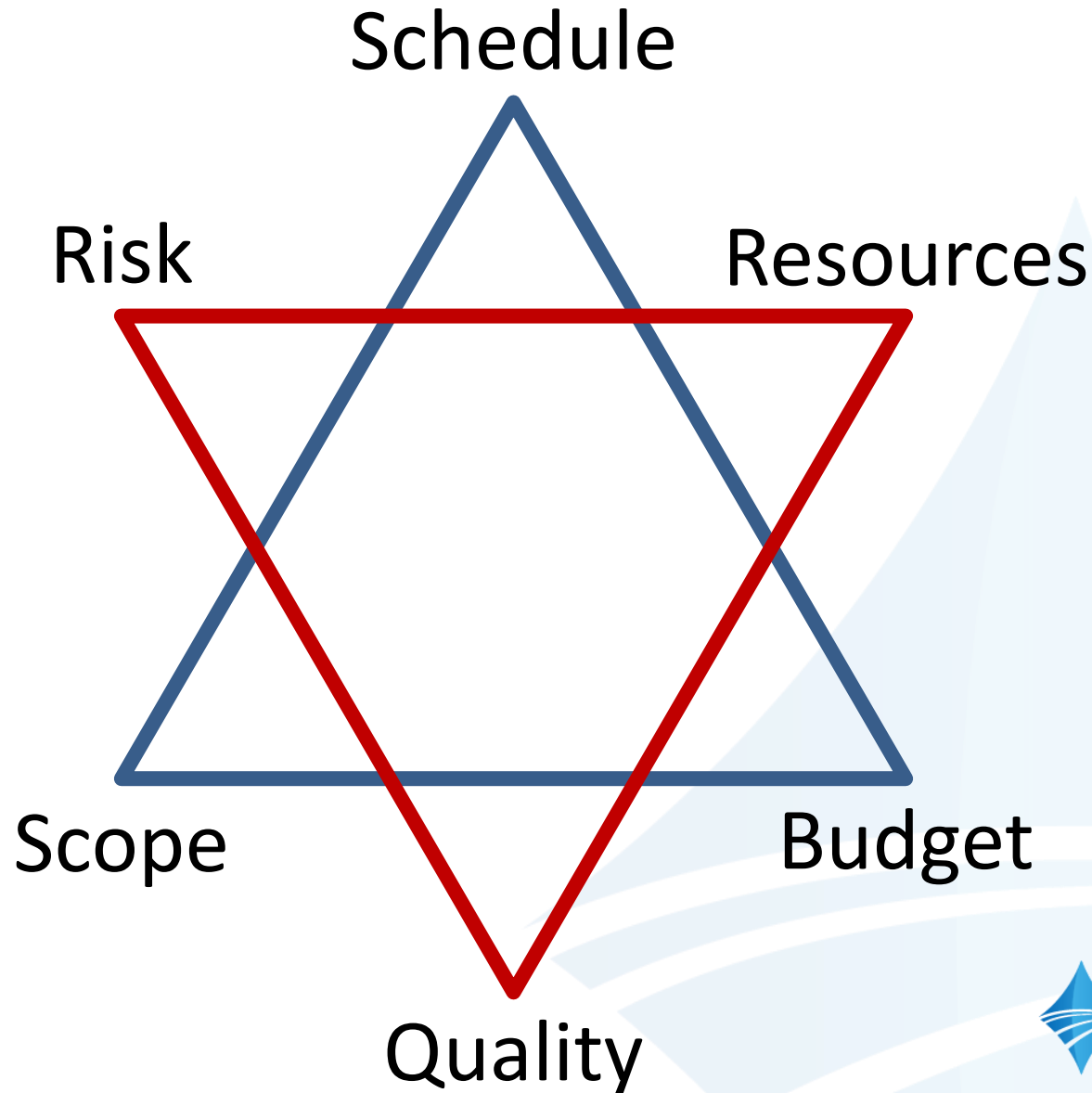


From: Jim Harbaugh

Pick Any Two



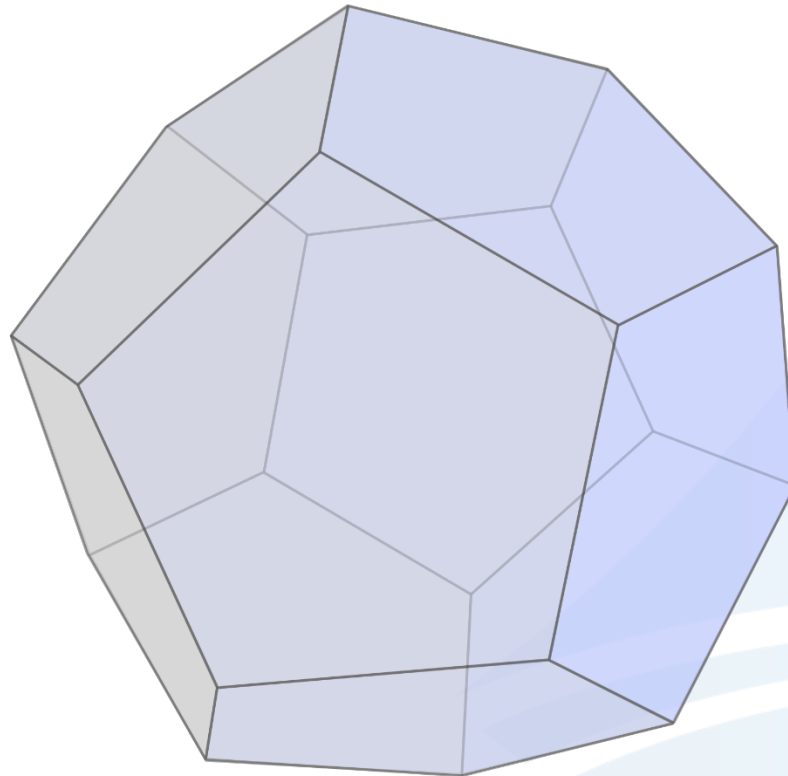
PMBOK PM Star



Why Stop At Triangles?

The Project Manager's Dodecahedron

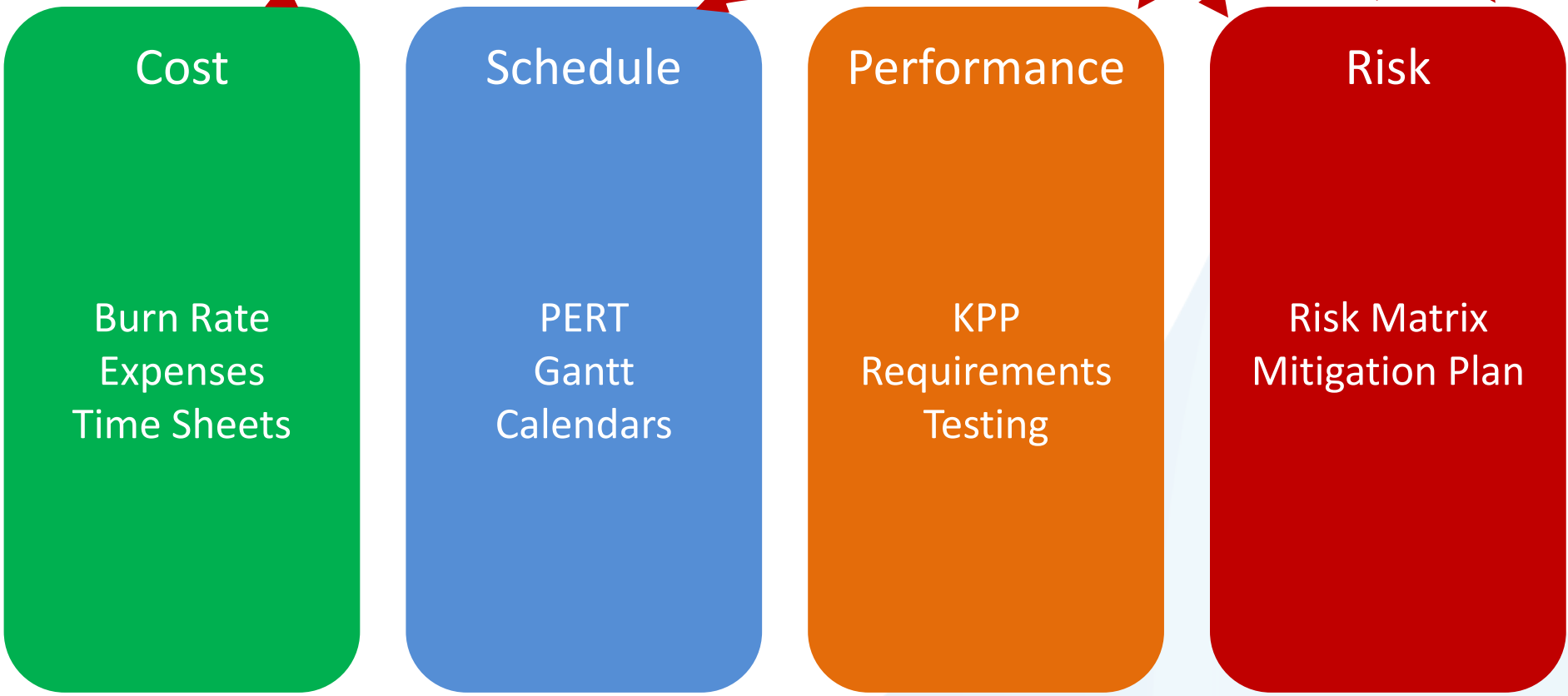
1. Cost
2. Schedule
3. Performance
4. Risk
5. Quality
6. Effort
7. Resources
8. Logic
9. Time
10. Life



11. Objectives
12. Executive Buy-in
13. Opportunities
14. Guidance
15. Insight
16. Accountability
17. IT
18. Bobby, "That Guy"
19. Plans
20. Communication

As a SE I can Show

??

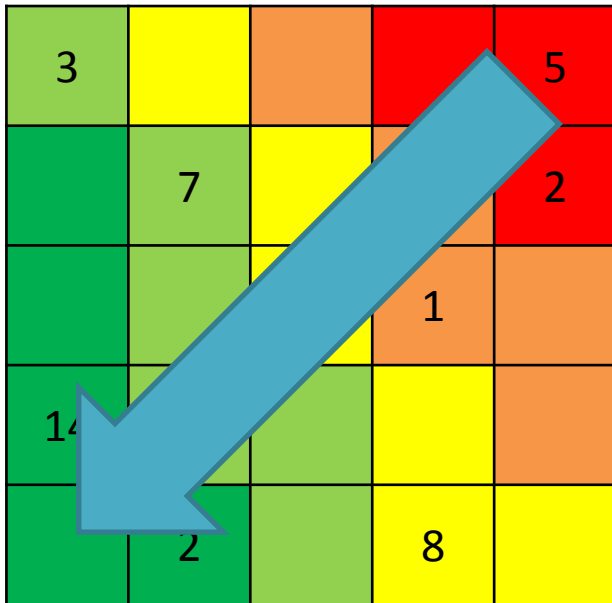


EVM

Contracts

EVM

What Normally Is Done



High:

#23 Complete system failure if wing falls off

#18 Complete system failure if engine shut down

Medium:

#8 Can not land if landing gear stuck

....

Low:

....

Goal: To bring down risk

What Normally Is Done

1				
7	5	2	1	
9	5	5		
5	2	2		

Risk Mitigation Plan

Risk	Mitigation
#1	Accept.
#2	Use XYZ component.
#3	Provide a spare.
....
....

Done, move onto the next thing.

Unanswered Questions

- Did mitigating this risk cause a new one?
- Why was that mitigation method used?
- What is the impact?
- Was the mitigation method driven by: cost, schedule, performance?
- Do the stakeholders know about this?
- How many times was this analysis done?

As a SE I Want to See

- Micro/macro changes over time
- Linkages to other risks
- Linkages to what the decision was
- Linkages to cost, schedule, performance
- Linkages to my model

Objective

	Risk	Mitigation
3		
1		
7		
1		
9		
5		
...		
...		

	Risk	Mitigation
#1		
#2		
#3		
...		
...		

[Company Name] [Version Number]

[Project Name] [Version Number]

12 Tools, Techniques & Reports

Identify the tools and techniques that will be used to store risk information, evaluate risks, track the status of risks, or generate risk management reports.

12.1 Risk Management Software

Identify the software used for managing risk management activities.

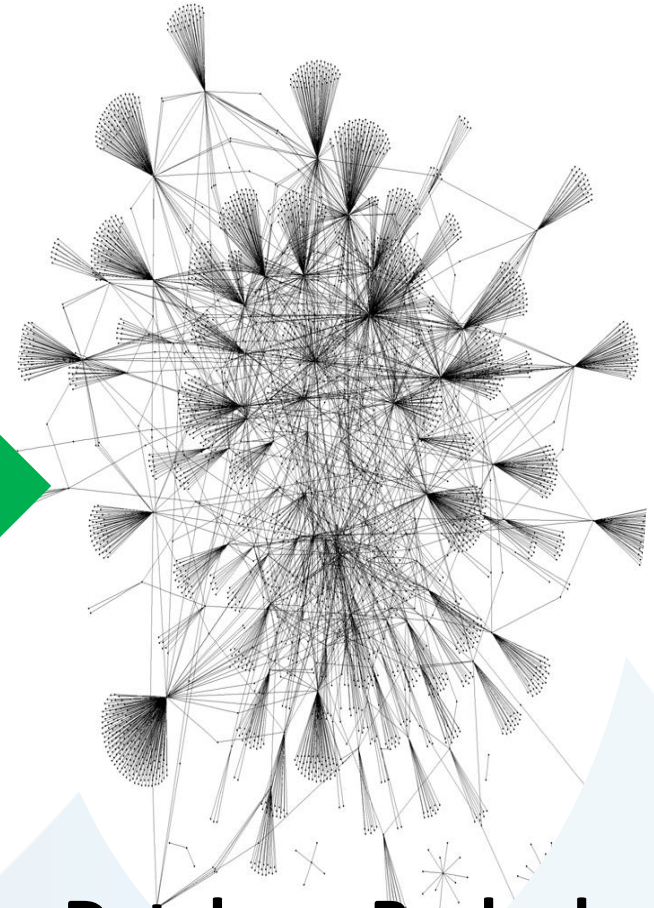
[Identify Software] is a risk management database designed to describe, organize, prioritize, track and display project risks. The application provides standard database functions: to add and delete risks, specialized functions for prioritizing and rating project risks, as well as maintaining a log of historical events.

Software	Purpose	Owner
Identify Software	Identify its purpose	Identify Owner
Identify Software	Identify its purpose	Identify Owner
Identify Software	Identify its purpose	Identify Owner

12.2 Risk Management Reports

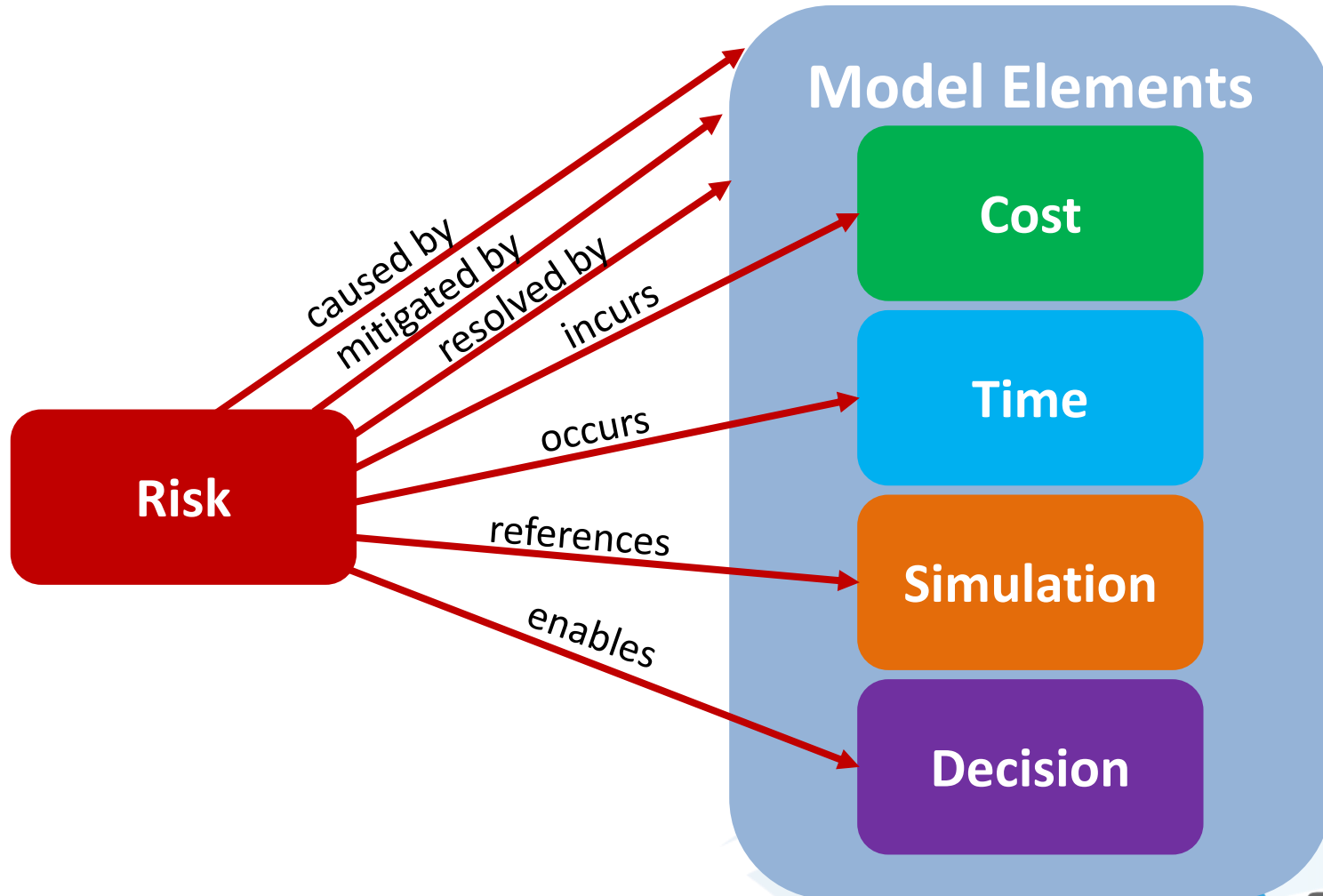
The following reports are delivered in support of the Risk Management Plan:

Report Name	Purpose	Frequency	Audience
Report Name	Describe its purpose	Weekly / Biweekly / Monthly	Project Team, Project Board, Client
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**Database Backed
Model Based SE**

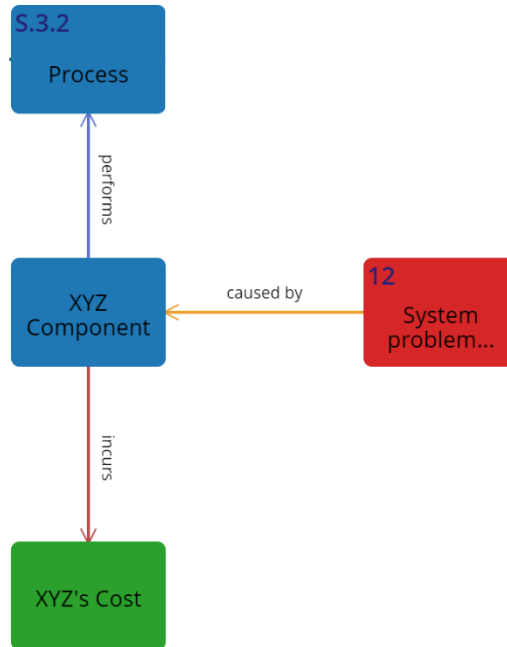
Risk & Model Interaction



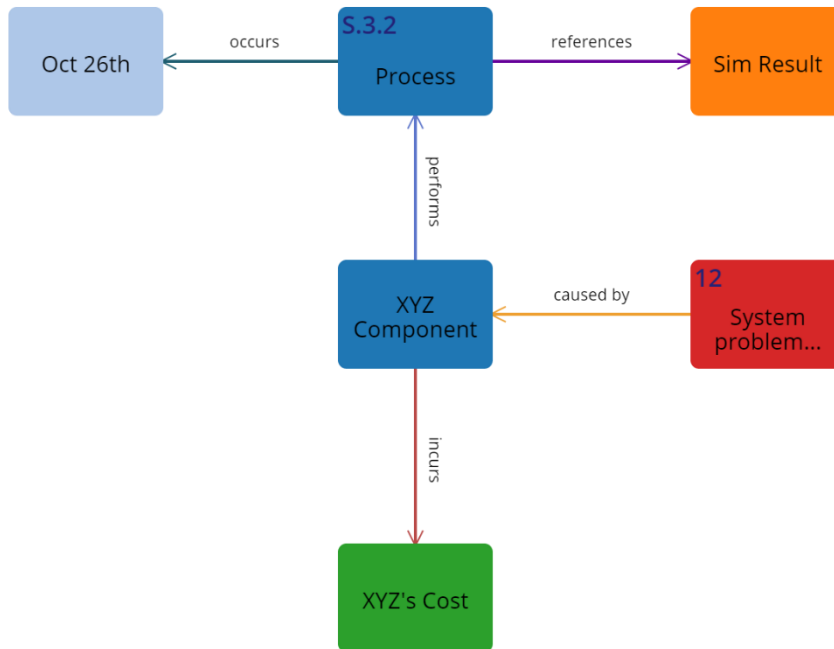
Pulling The Thread



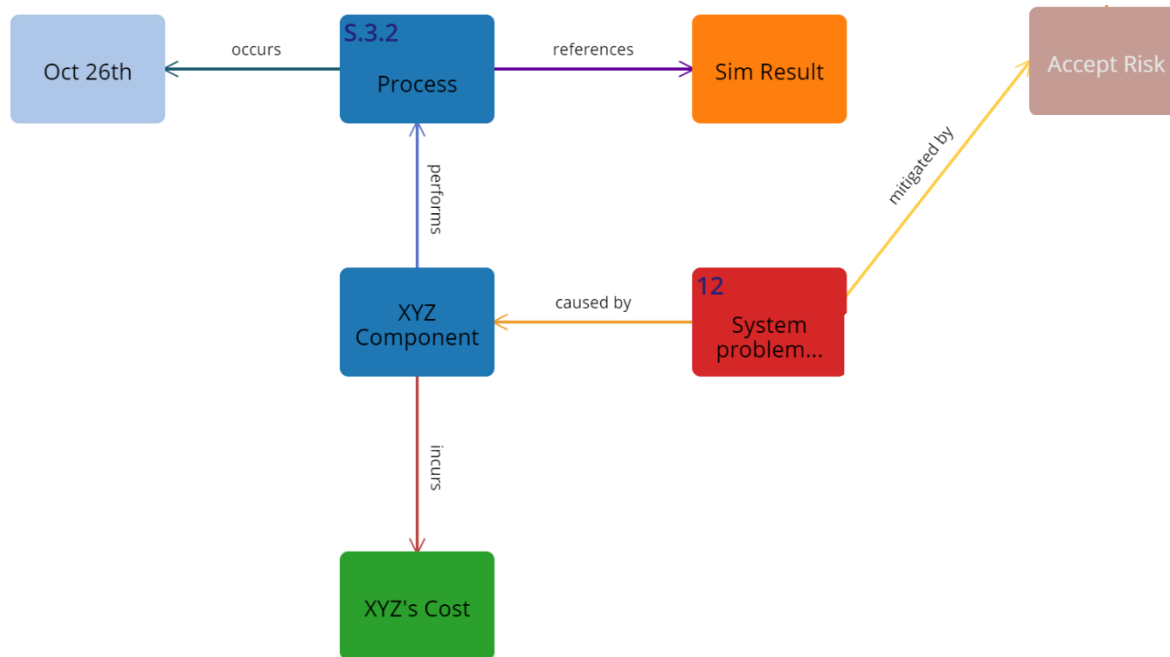
Pulling The Thread



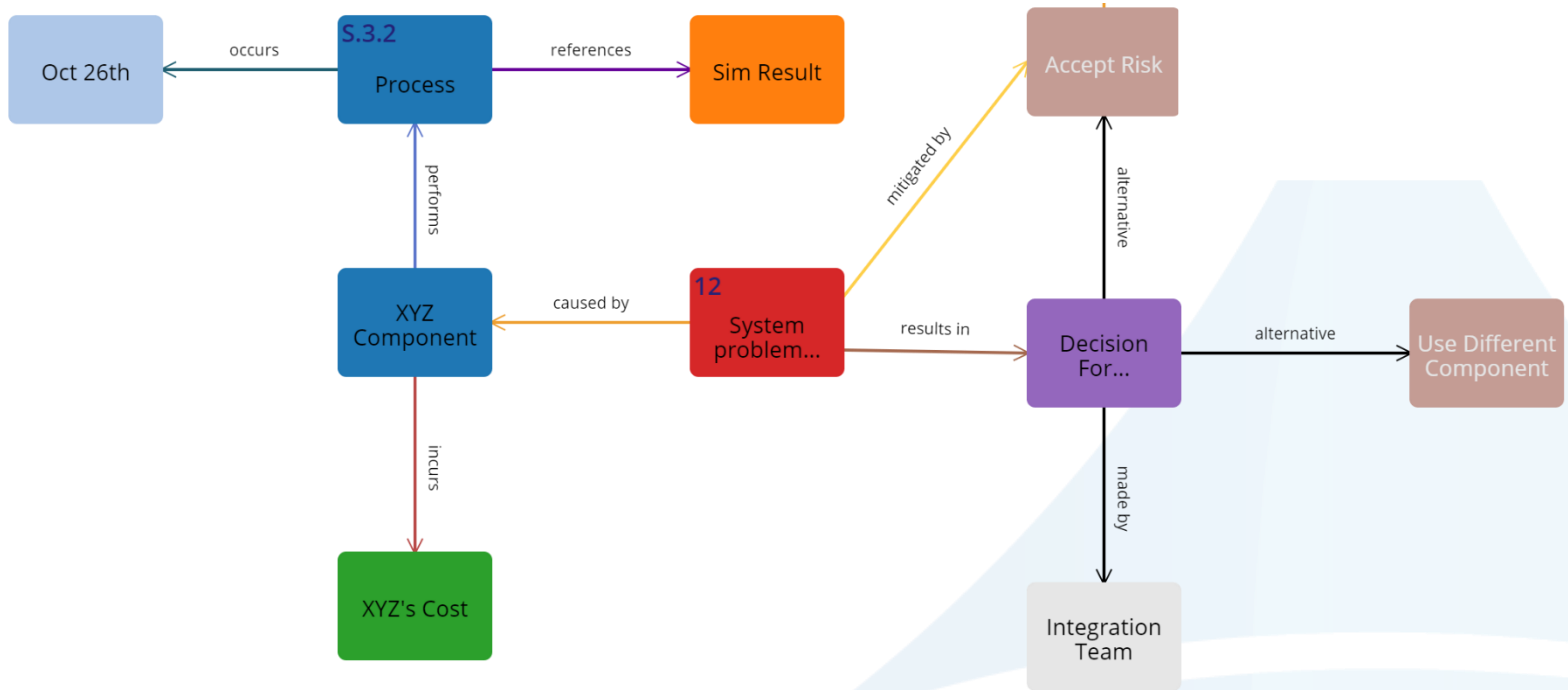
Pulling The Thread



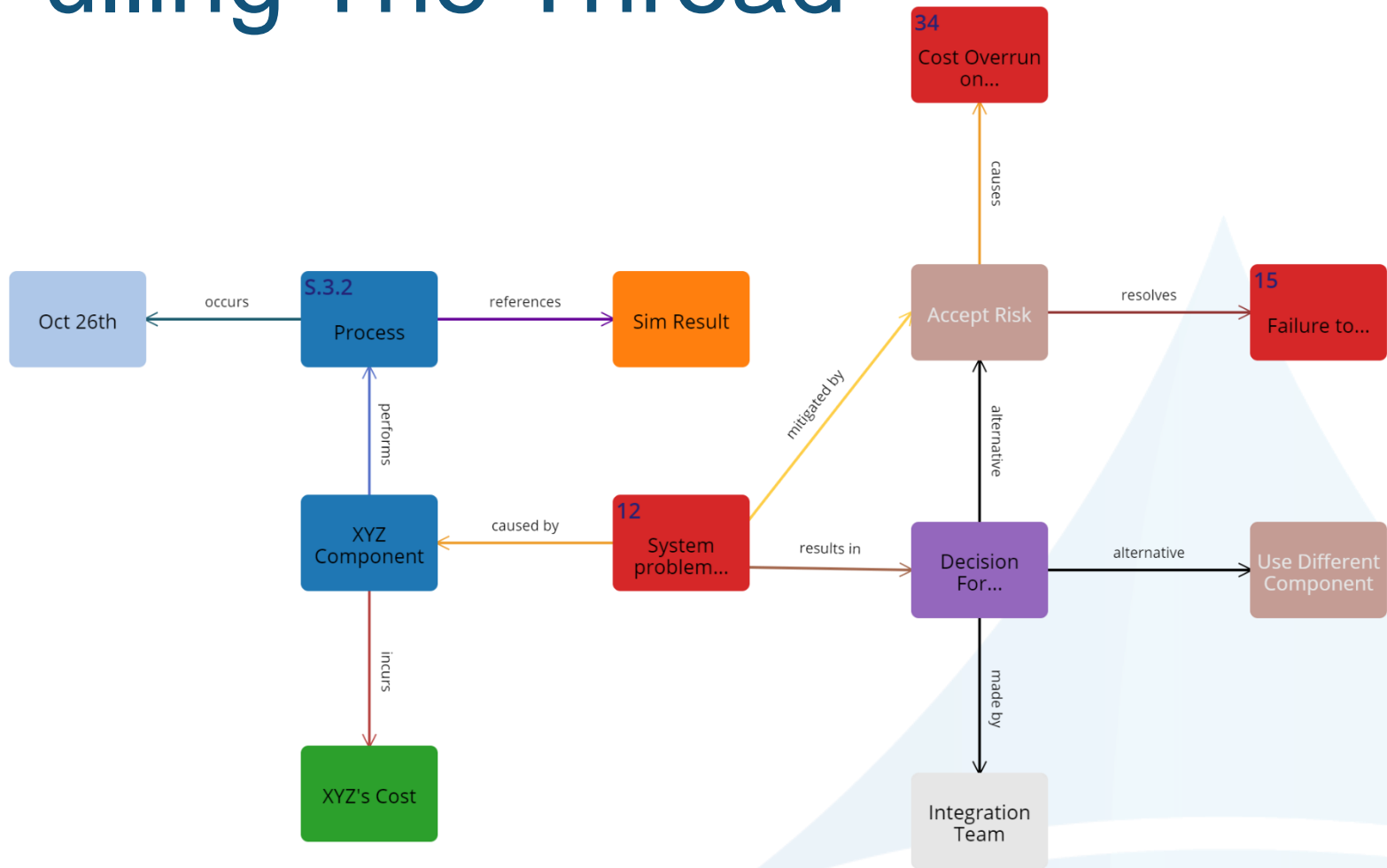
Pulling The Thread



Pulling The Thread

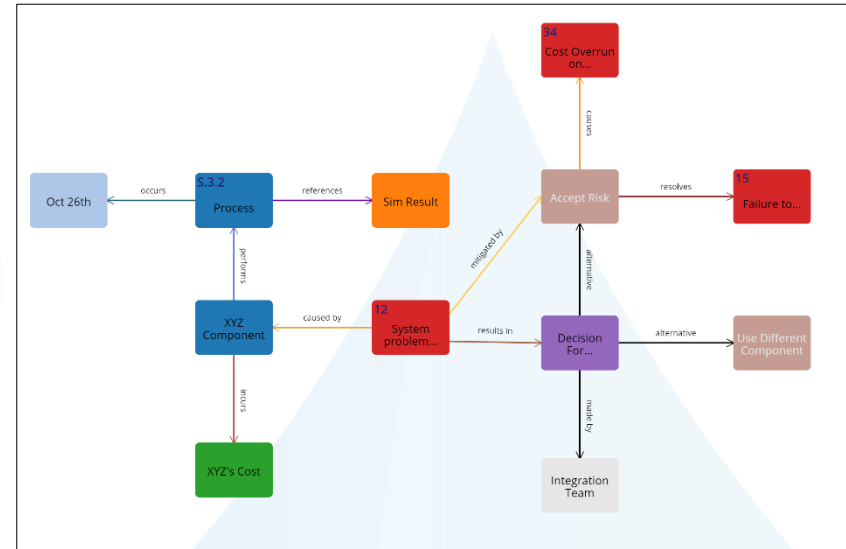


Pulling The Thread



What This Gives Me

Risk	Mitigation
#1	Accept.
#2	Use XYZ component.
#3	Provide a spare.
....
....



Context & Understanding

What This Gives Me

- What if scenarios
 - If I accept this and not that
 - Cost vs Schedule vs Performance output
 - Ripple effect, 3rd and 4th order
- Decision traceability
 - Who decided that and when
 - What was the rationale (with data)
- Impacts to my Functional & Physical Model

Why It Matters

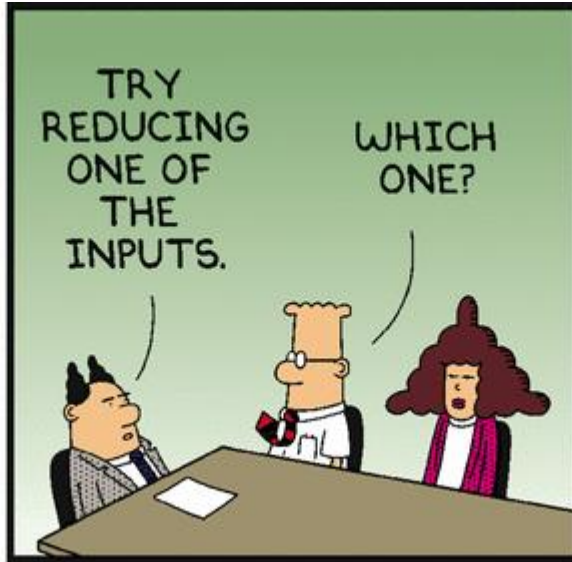
- Decision makers need to understand the impact on cost/schedule/performance
- Mitigation methods needs to be traced to a requirement, process update, asset, etc
- Risk management can occur at the same time as function/physical modeling
- Can simulate cost/schedule/performance/risk

Thinking About Risks Means

- We capture, mitigate, and resolve potential lifecycle errors early in the process before they become overly expensive
- We build our models to reflect and show the impact of risks on the system
- Modelers can be thinking about potential risks prior to an official risk assessment



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QUESTIONS