



**Project Controls**  
E X P O

# Data Driven Decision Making

## 3DM

Russell Berkeley

DARBUS Ltd

Deltek Strategic Partner

# Agenda

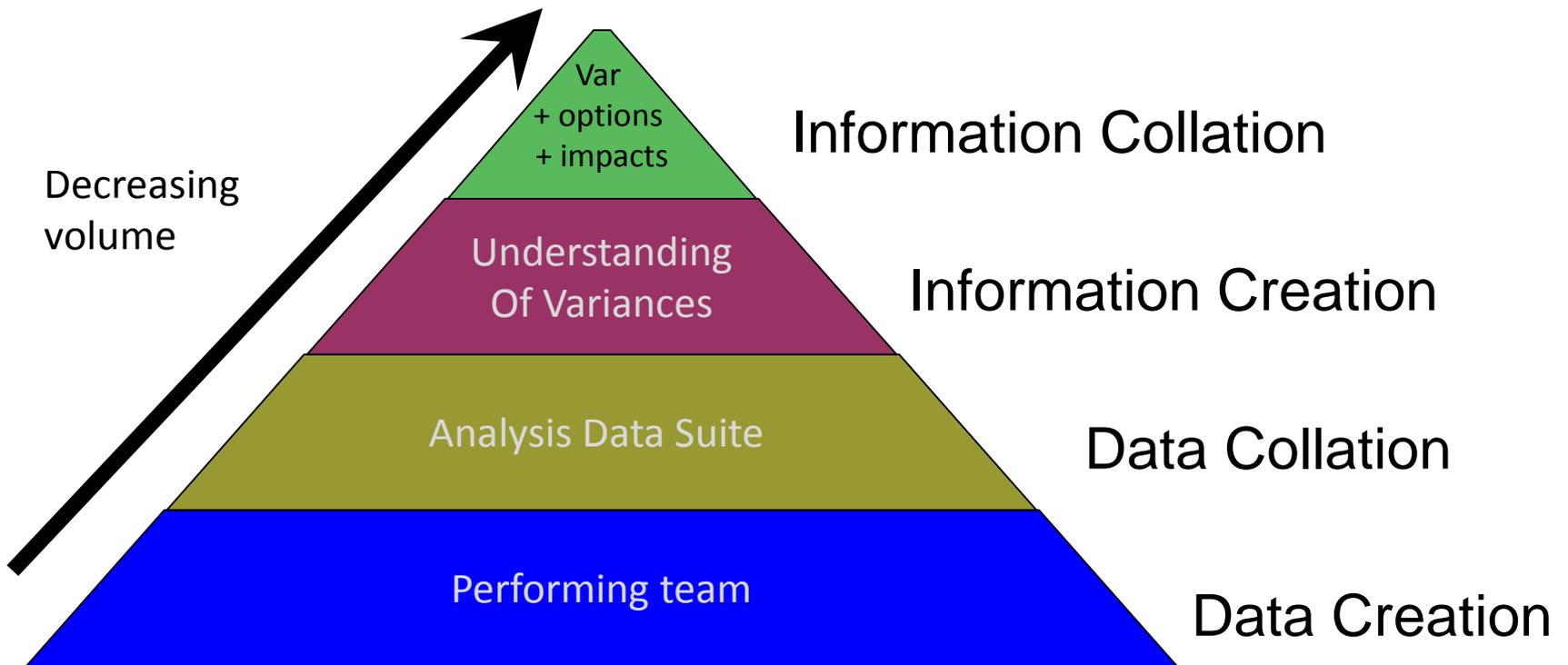
- Introduction
- Data Creation
- Data Collation
- Information Creation
- Information Collation
- Do I need emotions to make decisions?
- Decision Making
- Effect emotions have on decisions
- Understanding board emotions

# INTRODUCTION

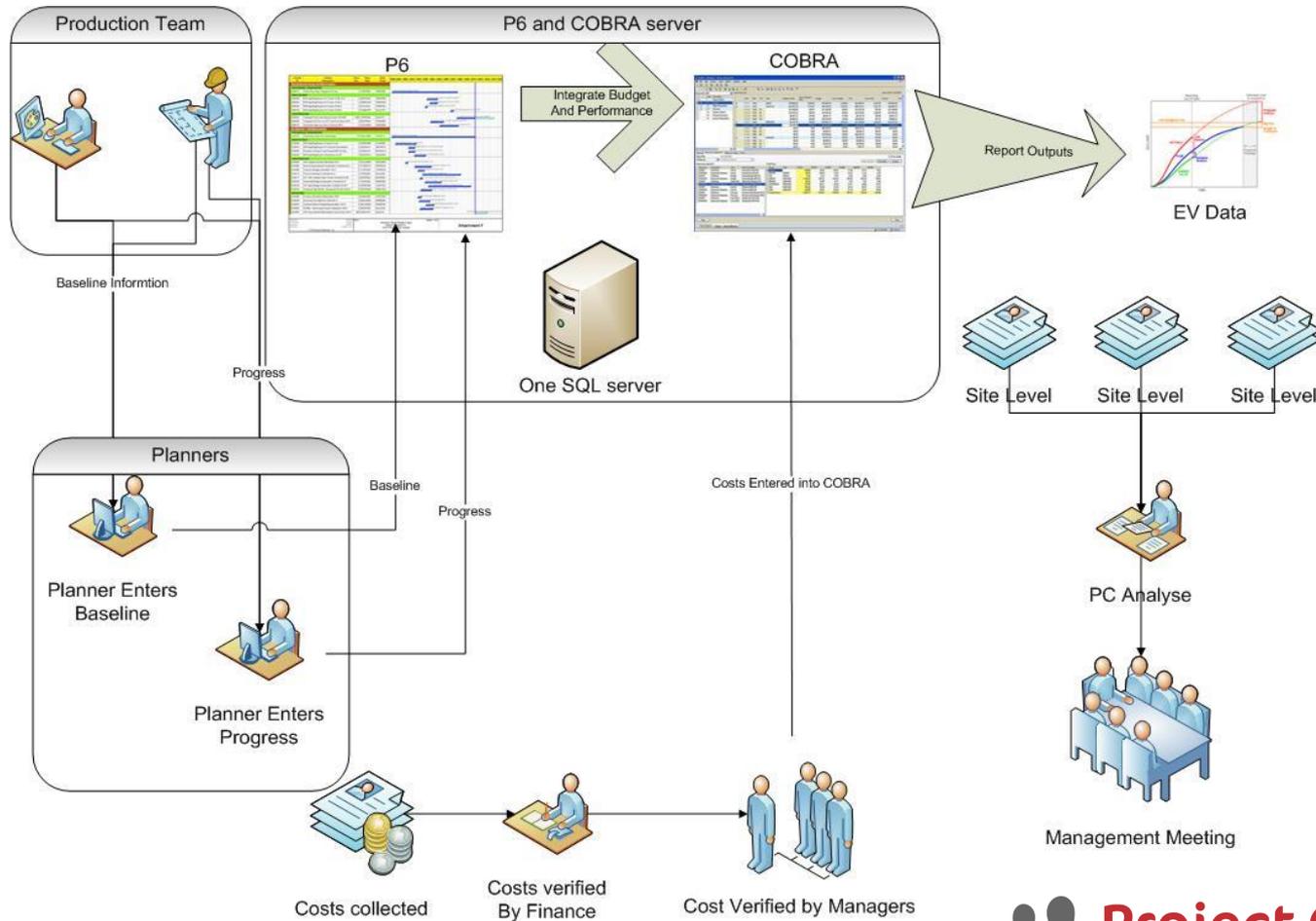
# Data – Information - Decisions

- I have read many articles about Data Driven Decision making, and the collective opinion is that you create data, analyse and then make decisions based on the dataset.
- In most of these articles they concentrate on the data into information, and very little is written about the actual decision making process
- This presentation will demonstrate the data into information, but most importantly the decision making

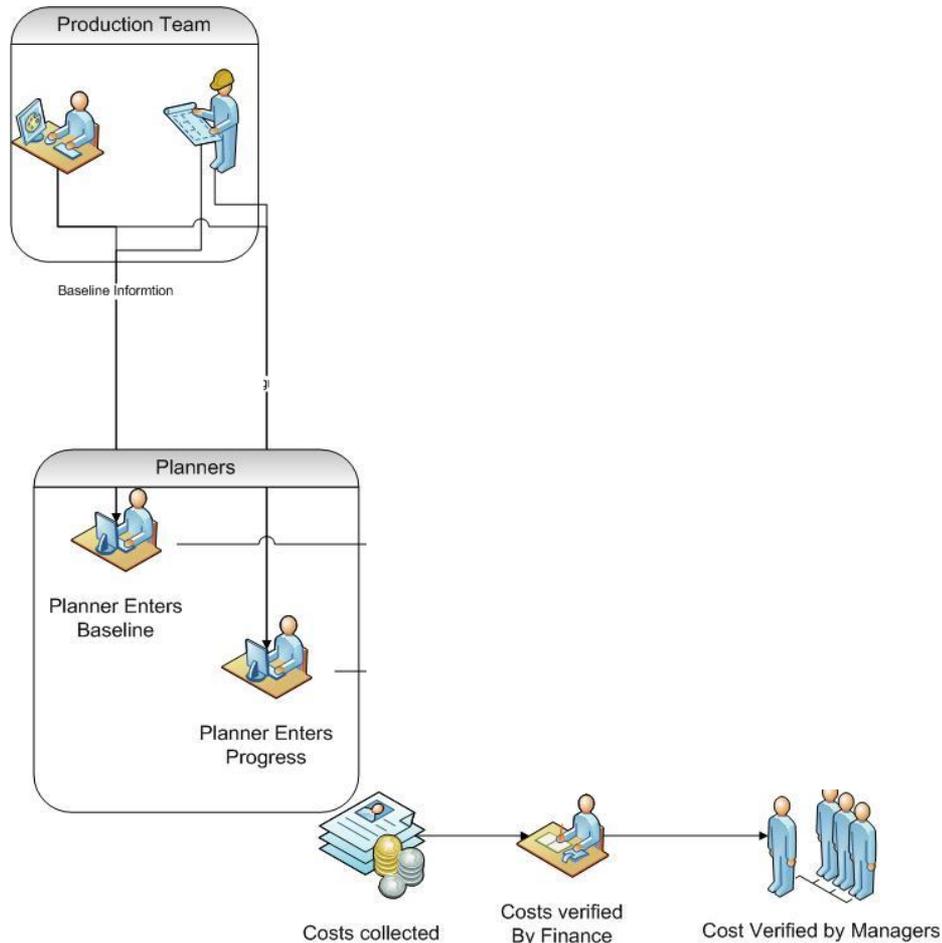
# Complete model



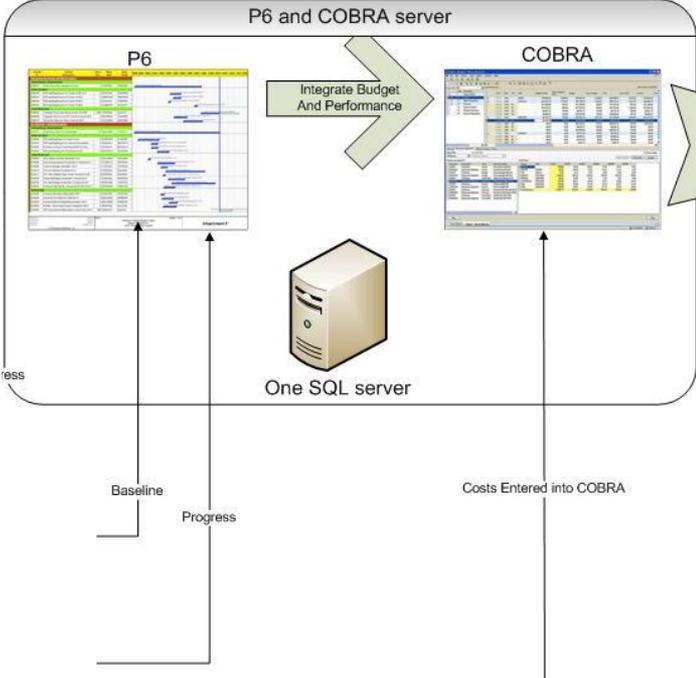
# Overview



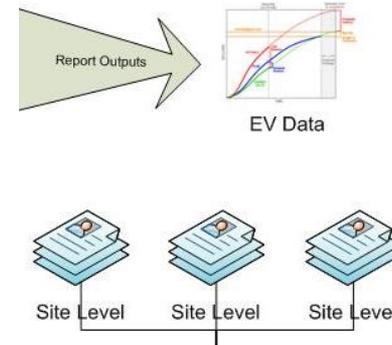
# Data Creation (Tactical)



# Data Collation



# Information Creation



# Information Collation

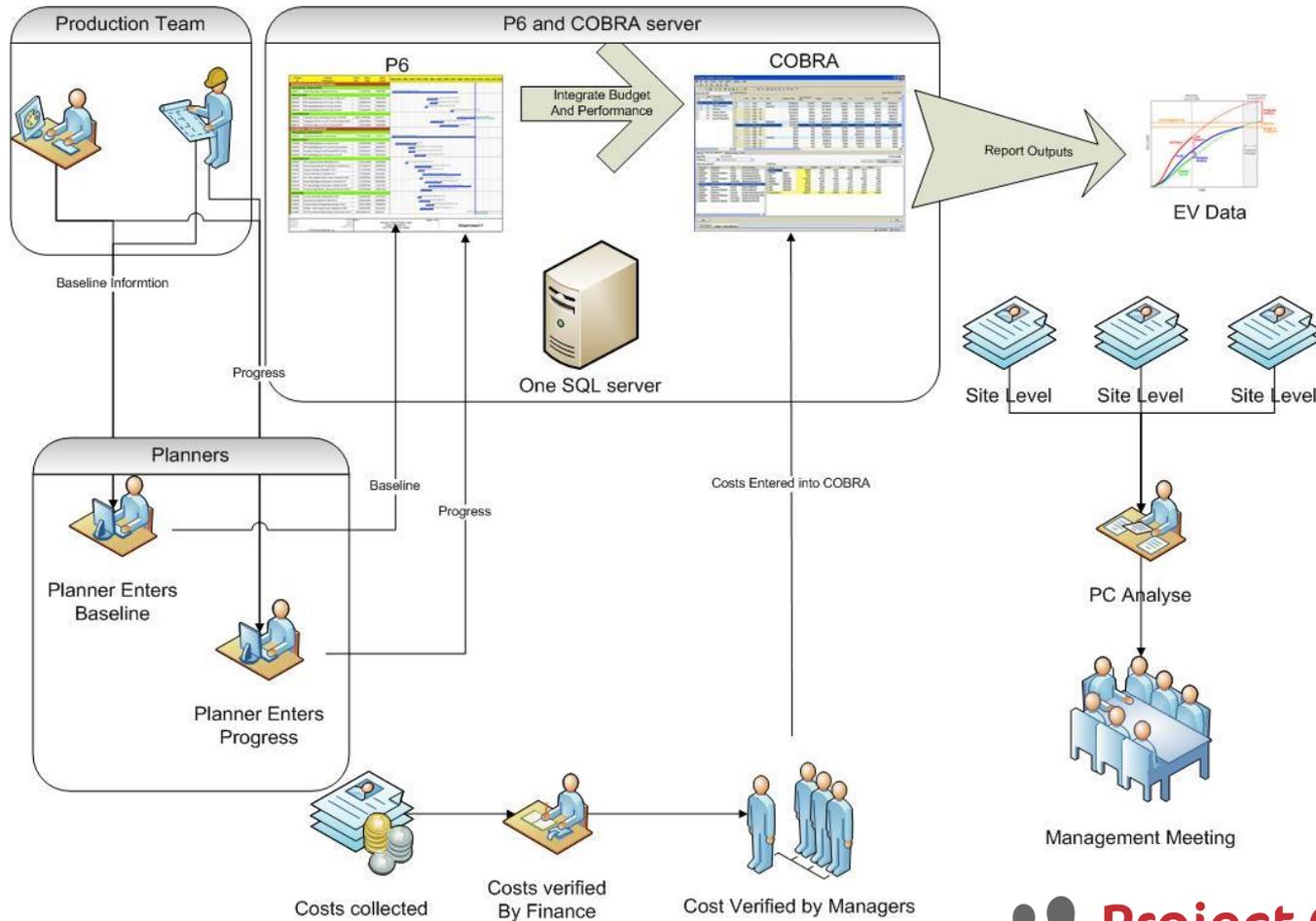


# Decision Making

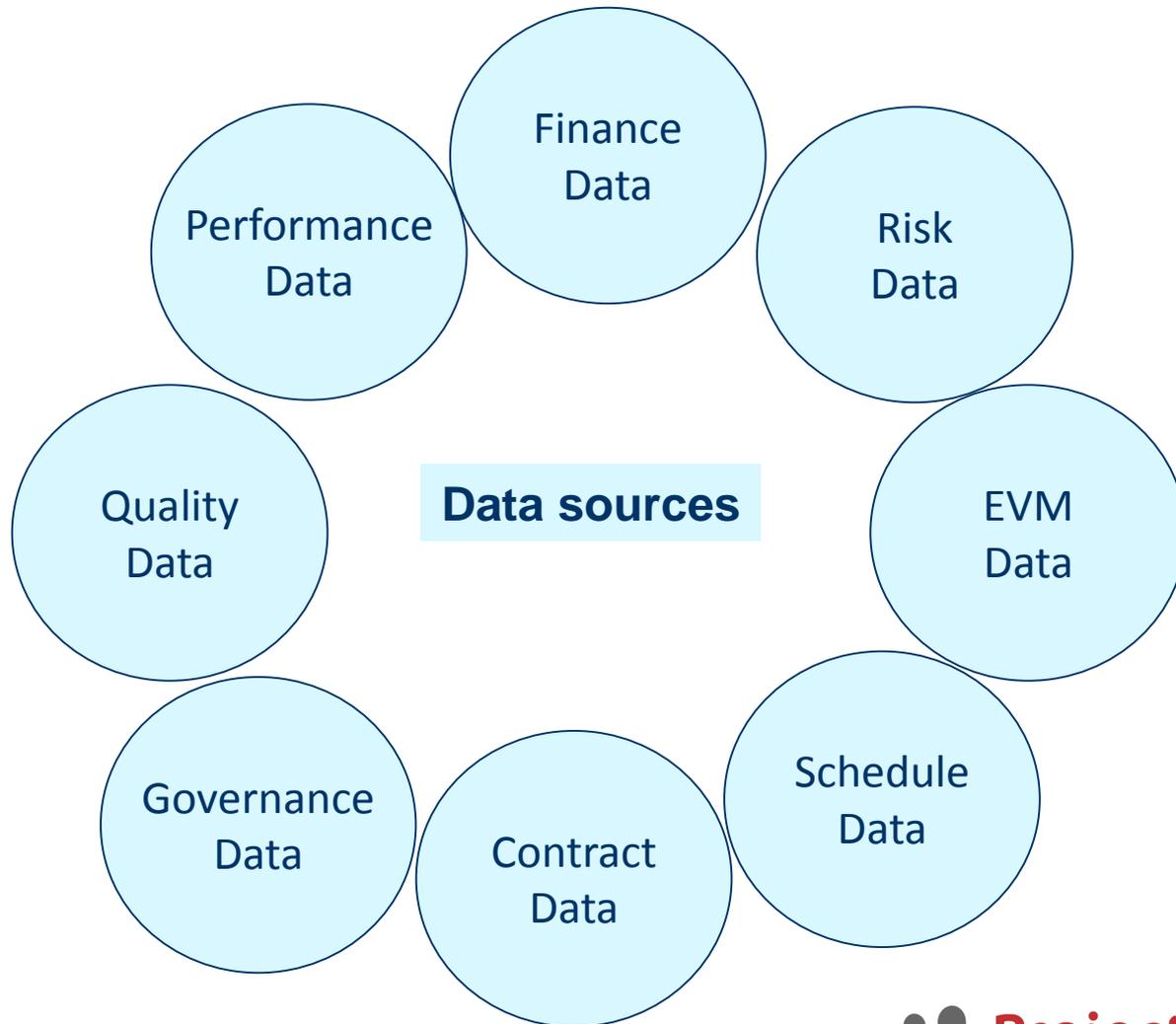


Management Meeting

# Overview



# Other Data sources



# DATA CREATION

# The only purpose of Data

- The only purpose of the data generation is to aid in the decision making process and to speed up how long it takes for a decision to get made.
- How can we define and support this to happen
- However the word 'data' has different meaning to tactical and strategic teams

# Data Creation(Tactical)

- Typically an engineer will create tactical data to support his preferred decision.
- He will then present this data to justify his option. In most cases this will be a complex and detailed collection of engineering information.

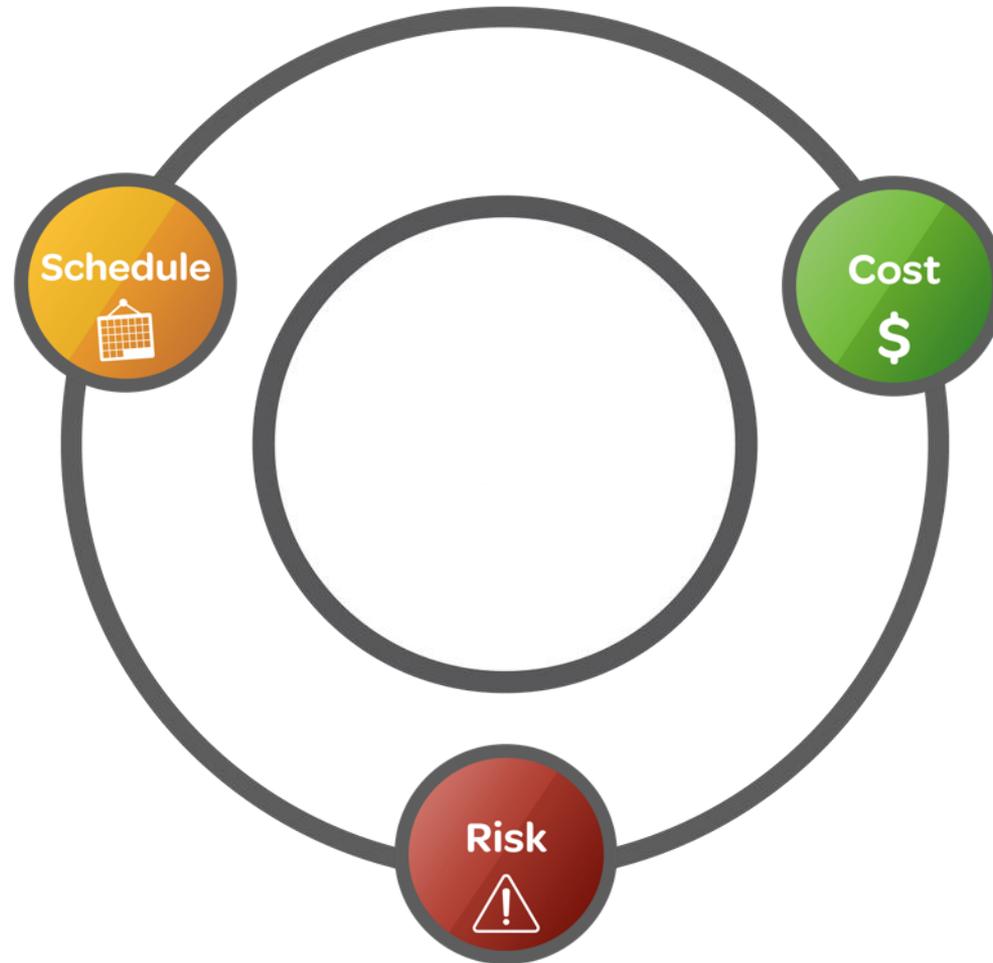
# Management response (Strategic)

- In many cases the management will respond by saying.
- “I need more ‘data’ to make a decision”

- What the Engineer will provide
- The engineer will further develop any data into lower fidelity as to the engineer this is the 'data' needed to justify his option
- What the decision maker wants
- The decision maker is actually after strategic 'data'. This is all the options and impact analysis for each option.

# DATA COLLATION

# Data Collation



# INFORMATION CREATION

# Information Creation

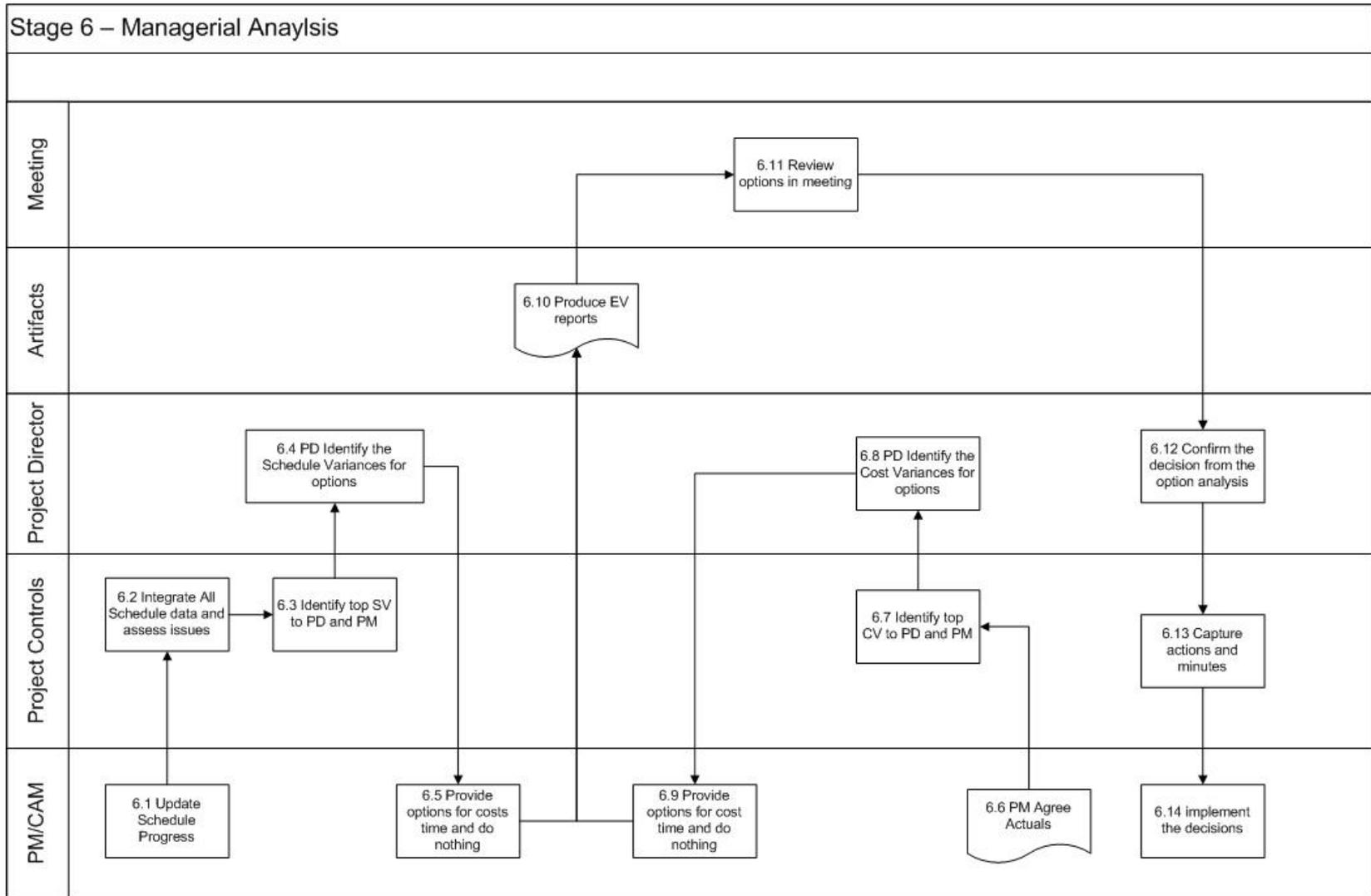
- Technology has evolved rapidly, and companies like Deltek have recognised the need for these to be integrated and have the ability to filter to the issues that need resolution.



**Powerful Integration.**

# INFORMATION COLLATION

# Information Collation



# Summary so far

- Data Driven Decision Making
- We have accurate data, but it's not being used effectively, **So what!!!**
- The data is integrated and filtered through the use of effective toolset

# DO I NEED EMOTIONS TO MAKE DECISIONS

# The role of emotions

- A few years ago, neuroscientist Antonio Damasio made a groundbreaking discovery.
- He studied people with damage in the part of the brain where emotions are generated.
- He found that they seemed normal, except that they were not able to feel emotions. But they all had something peculiar in common: they couldn't make decisions.
- They could describe what they should be doing in logical terms, yet they found it very difficult to make even simple decisions, such as what to eat.
- With no rational way to decide, these test subjects were unable to arrive at a decision.

# **DECISION MAKING**

# Why do women buy handbags?



# Why do men buy cars?



# Is business decision making the same

- YES!
- Although we might try and fool ourselves into thinking that we can make decisions without emotions, in reality we always take emotions into consideration.

# EFFECT EMOTIONS HAVE ON DECISIONS

# Decision – Do I cross this bridge?

Decision:

Maybe as no emotion reward or punishment

- Data Collation
  - Stable bridge
  - Capable of carrying your weight
- Information Collation
  - On the ground



# Decision – Do I cross this bridge?

Decision:

Yes as positive emotional reward is higher than negative punishment

- Data Collation
  - Stable bridge
  - Capable of carrying your weight
- Information Collation
  - On the ground

For £100



# Decision – Do I cross this bridge?

- Data Collation
  - Stable bridge
  - Capable of carrying your weight
- Information Collation
  - 6 feet off the ground
  - No wind

Decision:

Maybe as positive reward and negative punishment same



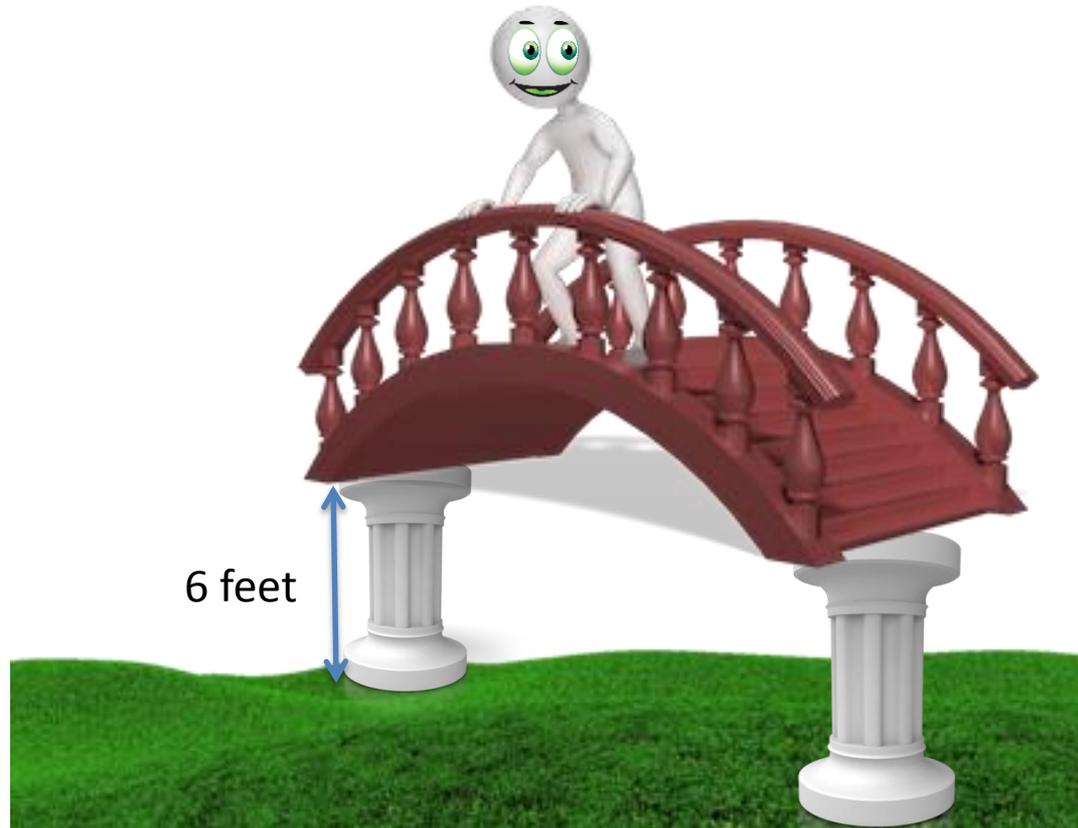
For £100

# Decision – Do I cross this bridge?

- Data Collation
  - Stable bridge
  - Capable of carrying your weight
- Information Collation
  - 6 feet off the ground
  - No wind

Decision:

Yes as positive reward greater than negative punishment



For £1,000

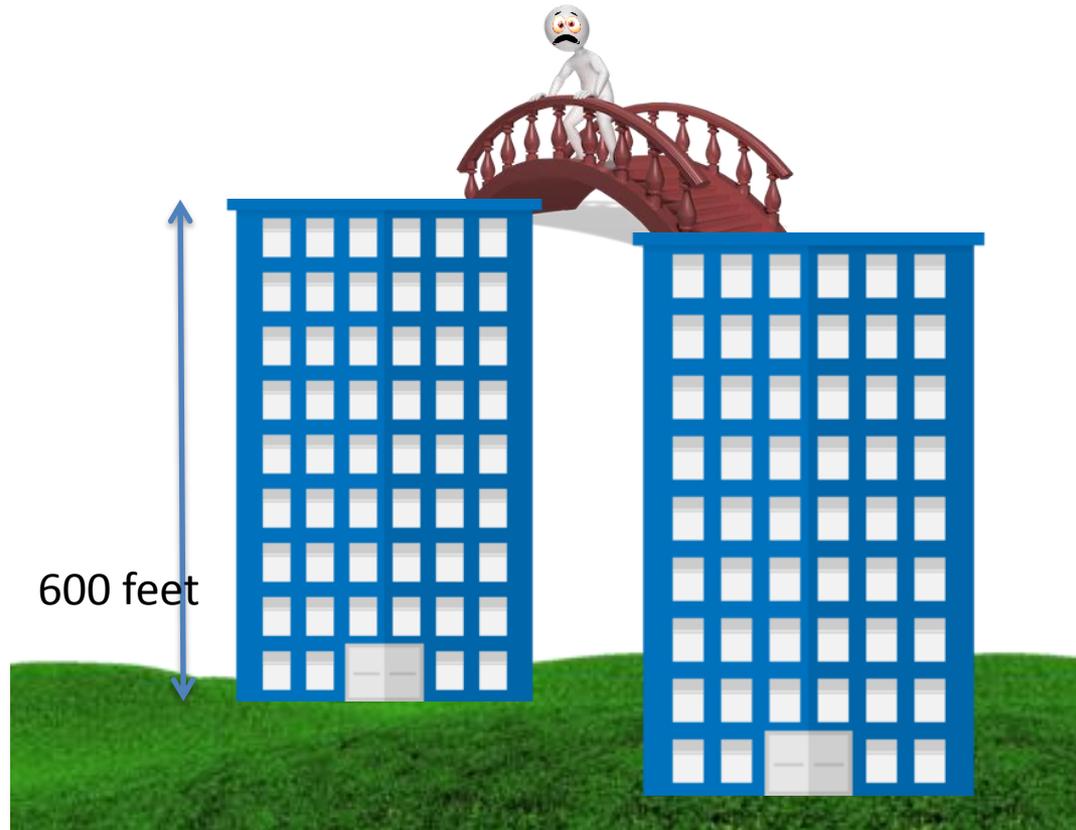
# Decision – Do I cross this bridge?

- Data Collation
  - Stable bridge
  - Capable of carrying your weight
- Information Collation
  - 600 feet off the ground
  - Small wind

Decision:

No as negative punishment is greater than the positive reward

For £1,000



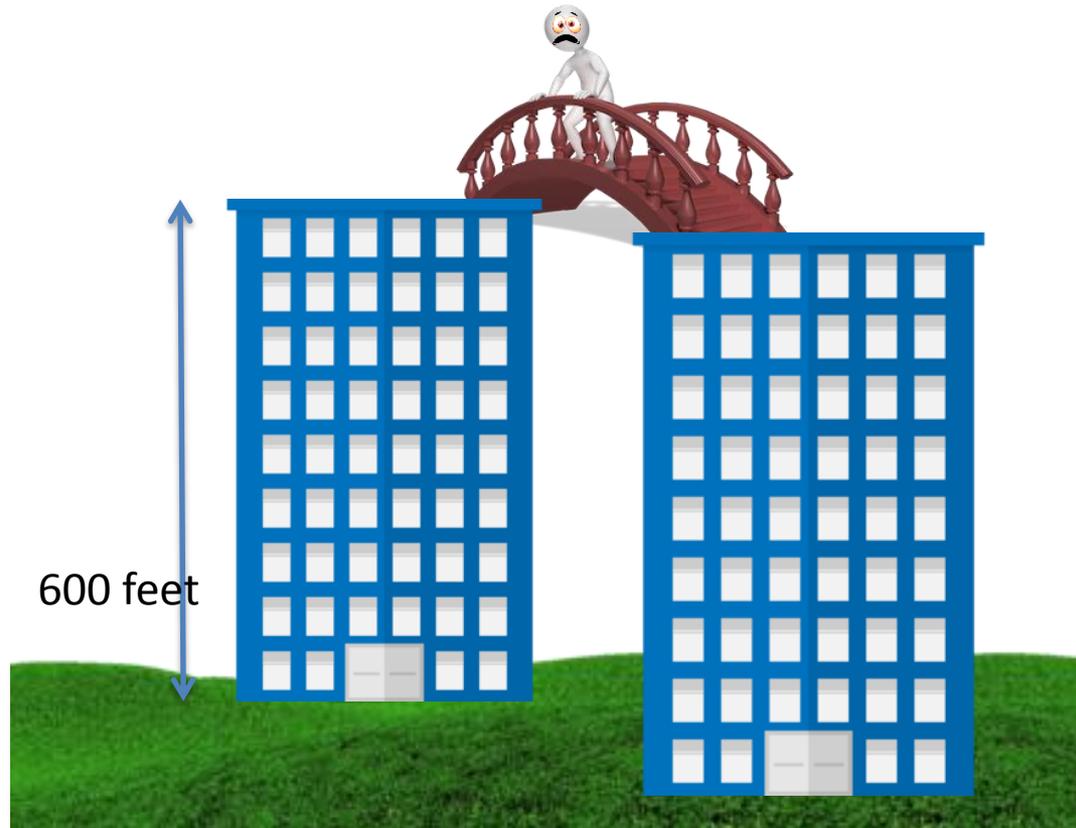
# Decision – Do I cross this bridge?

- Data Collation
  - Stable bridge
  - Capable of carrying your weight
- Information Collation
  - 600 feet off the ground
  - Small wind

Decision:

No as negative punishment is greater than the positive reward

For £10,000



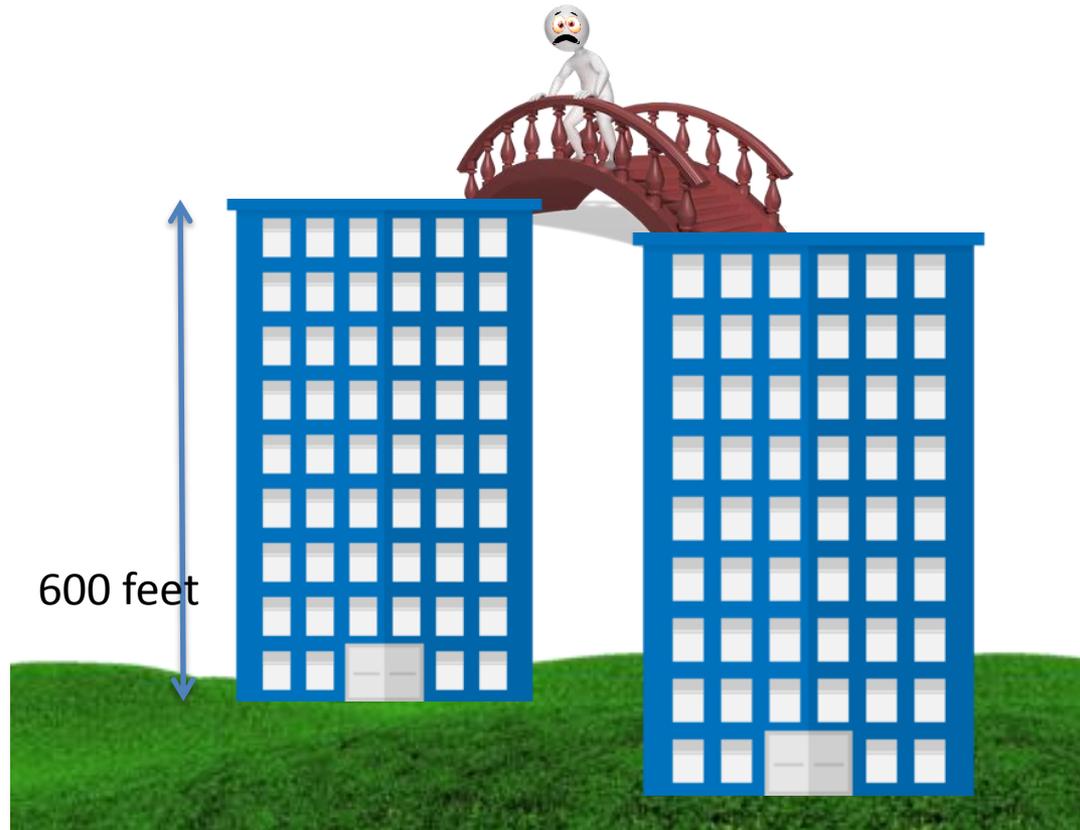
# Decision – Do I cross this bridge?

- Data Collation
  - Stable bridge
  - Capable of carrying your weight
- Information Collation
  - 600 feet off the ground
  - Small wind

Decision:

No as negative punishment is greater than the positive reward

For  
£100,000



# The data and question

- In this example neither the data or the question have changed.
- The question is still
  - “Do I cross the bridge”
- The data is still
  - The bridge is stable and capable of carrying your weight

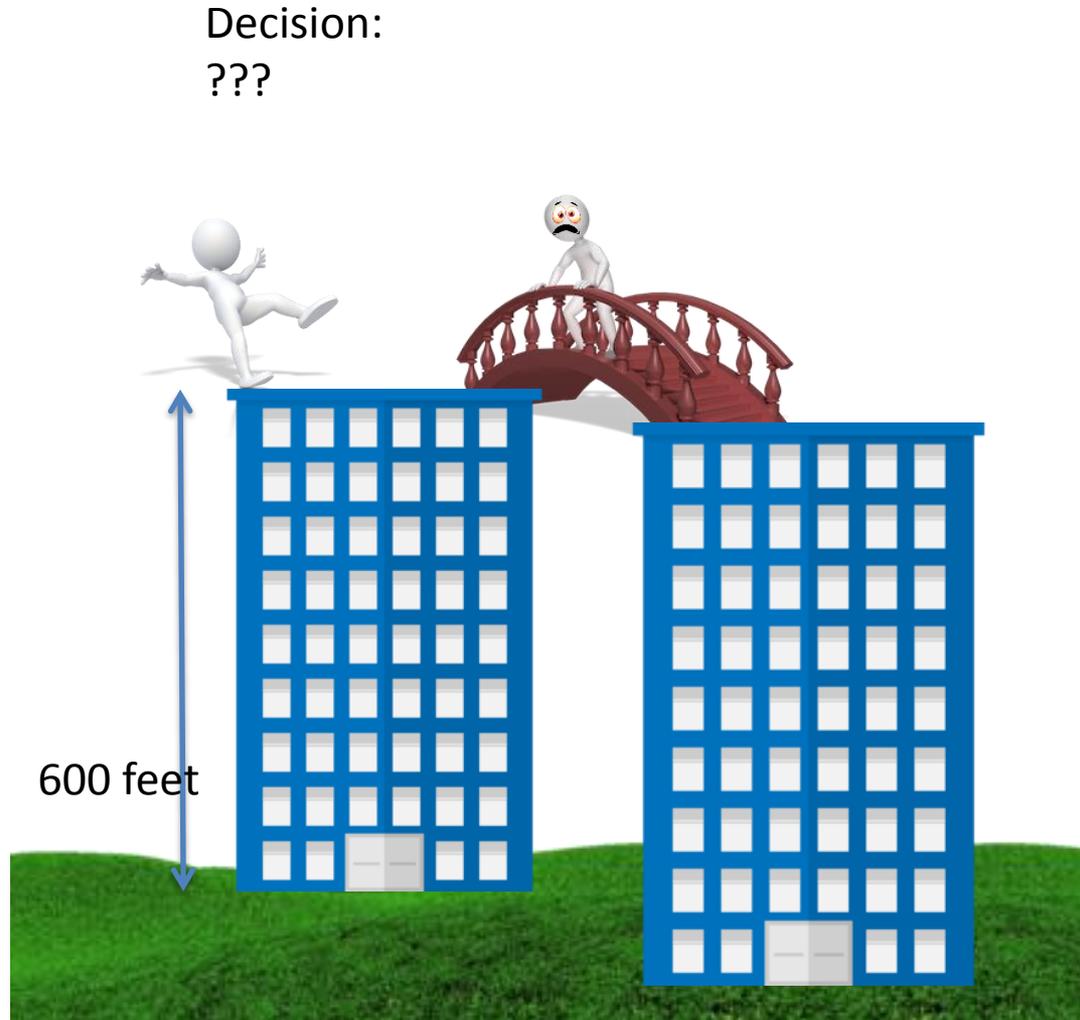


What is changing is the relationship between emotional reward and punishment, the ‘impact’ of the decision

# Decision – Do I cross this bridge?

- Data Collation
  - Stable bridge
  - Capable of carrying your weight
- Information Collation
  - 600 feet off the ground
  - Small wind

Emotional  
only

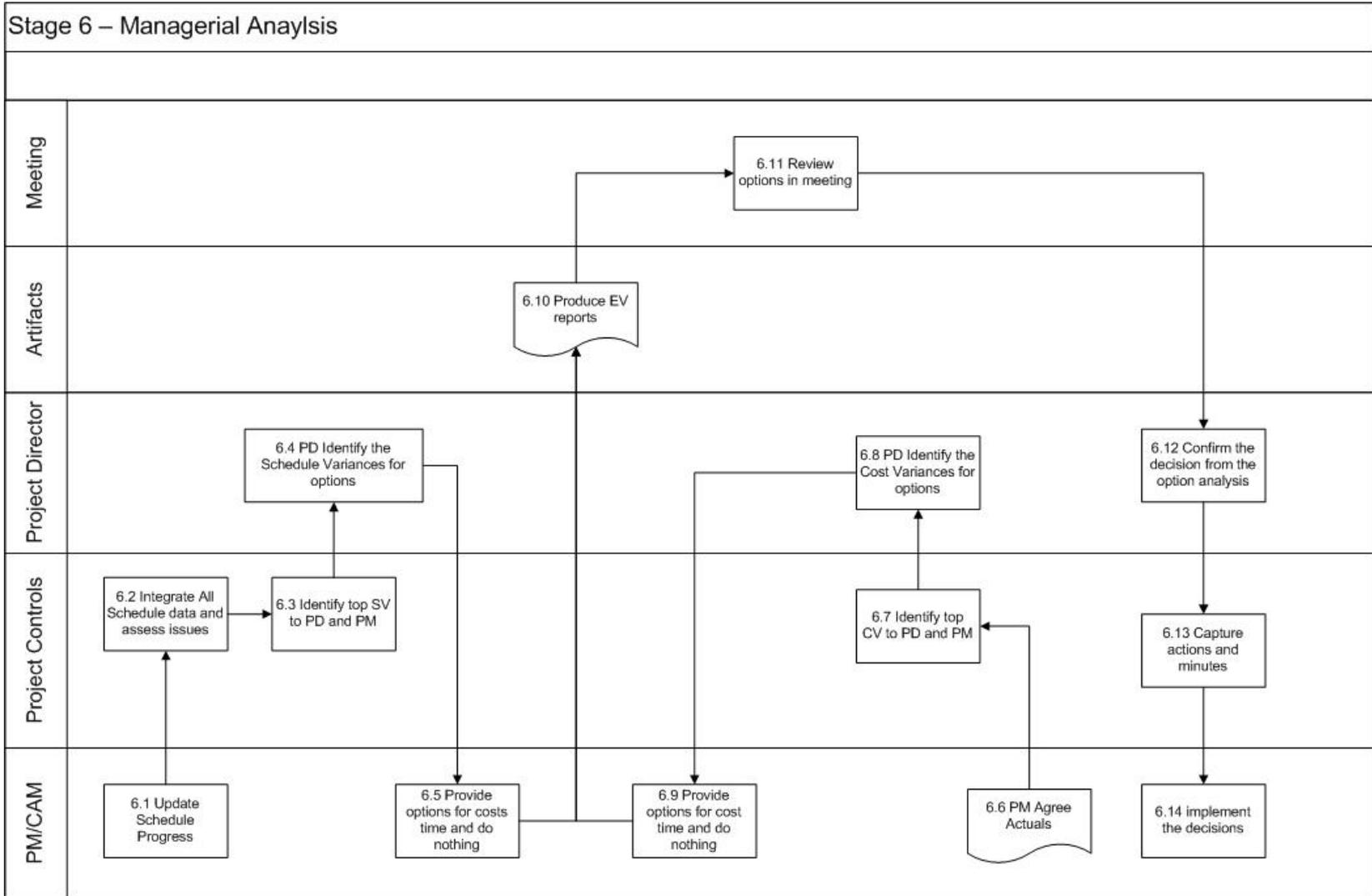


**SO WHAT!!!**

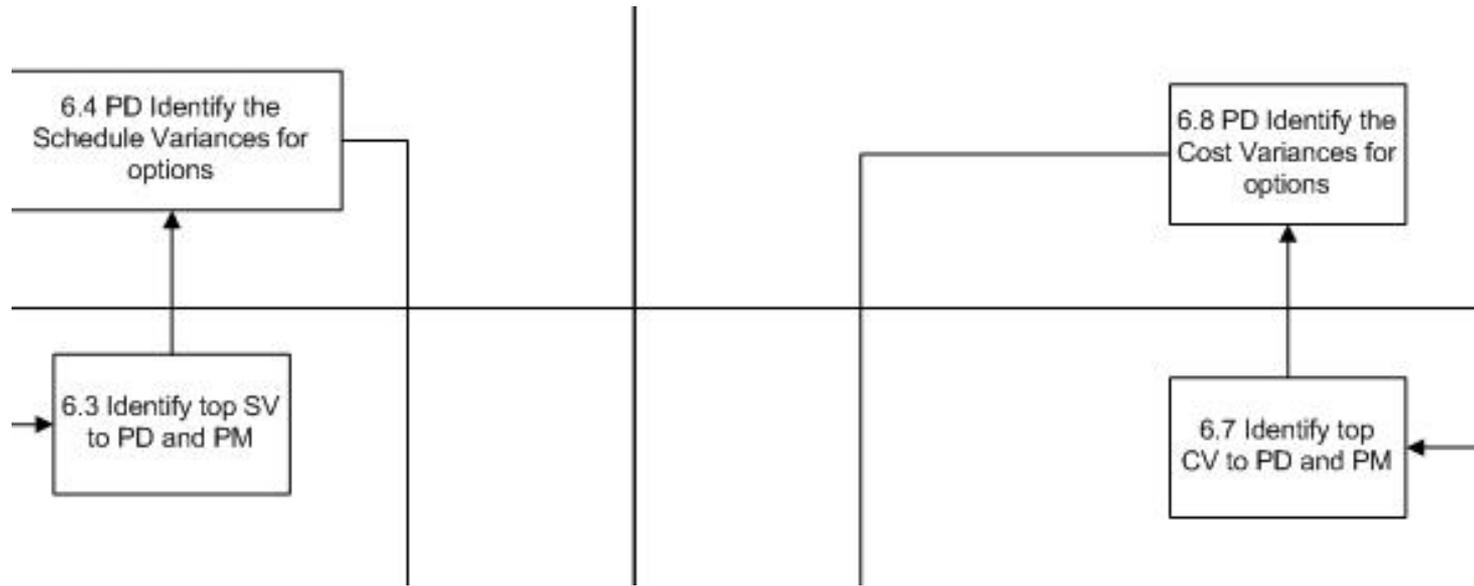
# Options (Data) and Impact (Emotions)

- In order for the management team to make decisions, we need to ensure that they are given information relating to the impact of that decision.

# Information Collation



# Information Collation



For schedule recovery options

- Impact on costs
- Impact of critical path

For cost recovery options

- Impact on time
- Impact of critical path

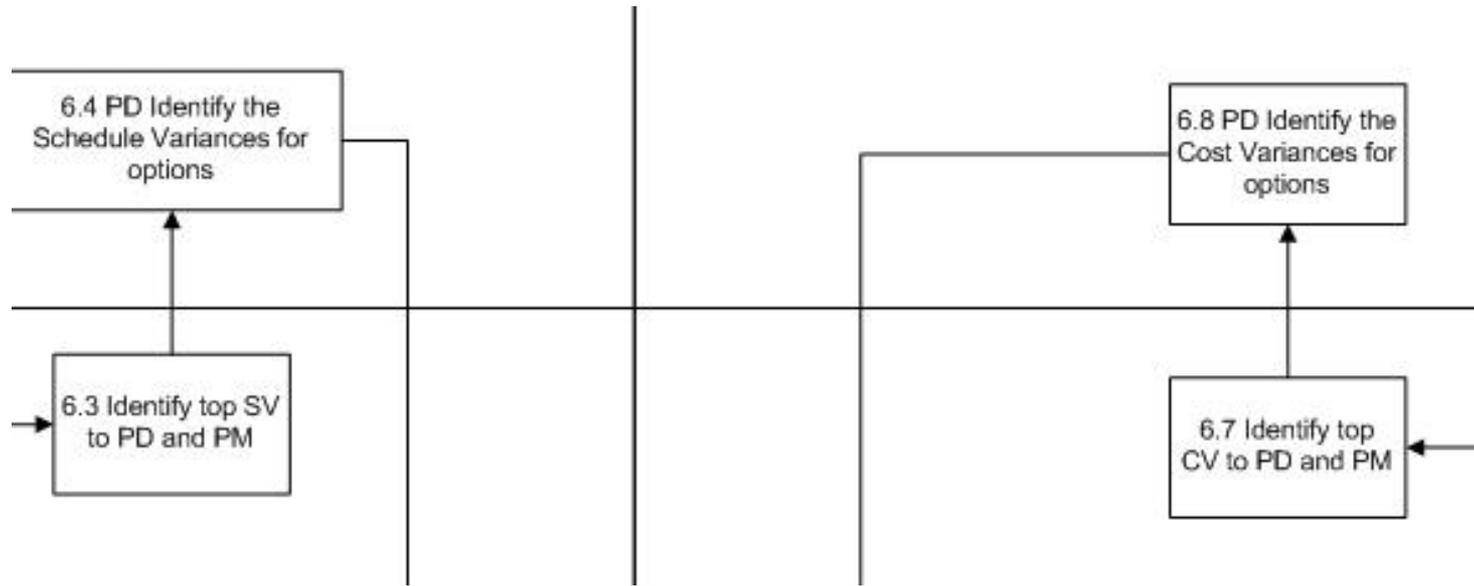
Is this the only information we need?

# Impact of a 'Do Nothing' decision

- Sometimes even if given the options, and the relevant impact the board may still not make a decision.
- If the PM team explain the impact on time and cost of not making a decision, it may increase the decision making timescales as the impact of 'no decision' has been identified



# Information Collation



For schedule recovery options

- Impact on costs
- Impact of critical path

For 'Do nothing' option

- Impact on time
- Impact of critical path
- Impact on costs

For cost recovery options

- Impact on time
- Impact of critical path

# UNDERSTANDING BOARD EMOTIONS

# The PMO's understanding of the board

- If data is expected to enable the decision making process, then it must be presented in the form of information that addresses the emotional influences to which the decision makers are being subjected.
- Otherwise the result may be in-decision, or decisions which are difficult to rationalise later.

# Board Emotions

# Conclusion

- We need to acknowledge that the board have emotions, and these will effect the decision making process.
- We need to acknowledge that once provided with the impact of not making a decision 'Do nothing' is actually a decision and should be documented as such
- That the Data into Information identifies the elements where decision may need to be made, and the options and impacts provide what decisions could be made.

Russell Berkeley

Darbus Ltd

**ANY QUESTIONS**