

How to Manage the Risk of Outsourcing



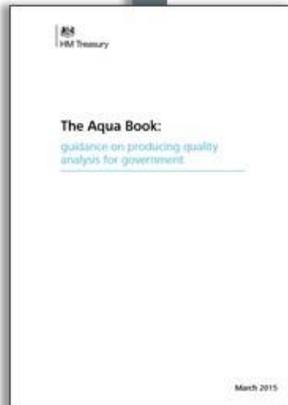
Sources

There are a wealth of publications that provide good practice insight into the development of models. The Outsourcing Playbook will provide specific guidance on elements of model development.

REVIEW OF QUALITY
ASSURANCE OF
GOVERNMENT
ANALYTICAL MODELS



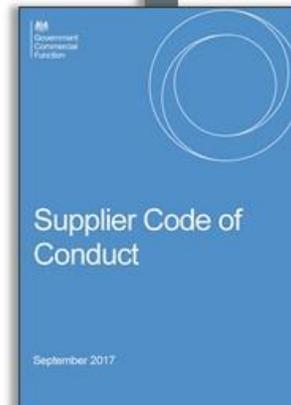
THE AQUA
BOOK



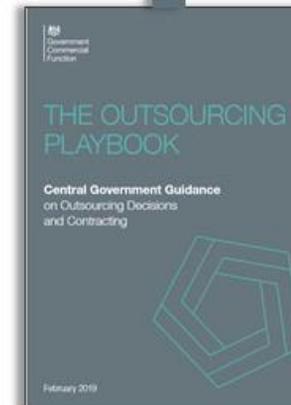
THE GREEN
BOOK



SUPPLIER CODE OF
CONDUCT



THE OUTSOURCING
PLAYBOOK



GUIDANCE NOTES



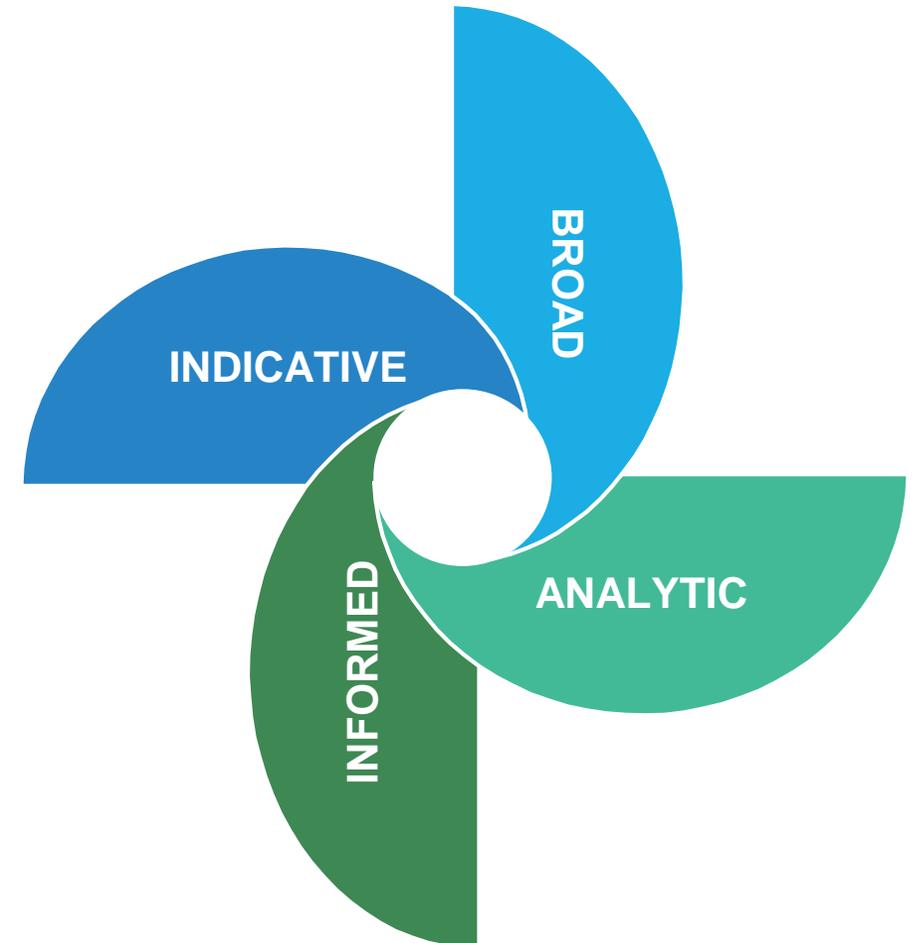
CENTRAL
GUIDANCE ON
CORPORATE
FINANCIAL
DISTRESS



What is a Should Cost Model?

A Should Cost Model (“SCM”) is a technique used to determine the expected cost of goods or services that are provided by suppliers.

- ❖ Gives an idea of how much something **should cost**;
- ❖ Will consider a **range of options**;
- ❖ They use **analytical techniques**;
- ❖ They use **relevant comparative** information to inform the output.



Should Cost Model - Benefits

01

They give a **clear understanding of costs** and inform budgeting and decision making.

04

They give a baseline for a dialogue, helping to **inform engagement with bidders**.

07

They give visibility of the components of a Product or service and the associated cost, reducing the risk of **Low Bid Bias**.

02

They deepen the understanding of the **costs of delivering** a product or service.

05

They can be used to better understand the **risks & opportunities** associated with a particular decision.

08

They support implementation and the **downstream management** of a decision by providing a granular understanding of costs.

03

They give the detail required to understand the **likely costs of a procurement** at a functional or product Level.

06

They guide the **Target Operating Model** and the ways of working for a particular decision.

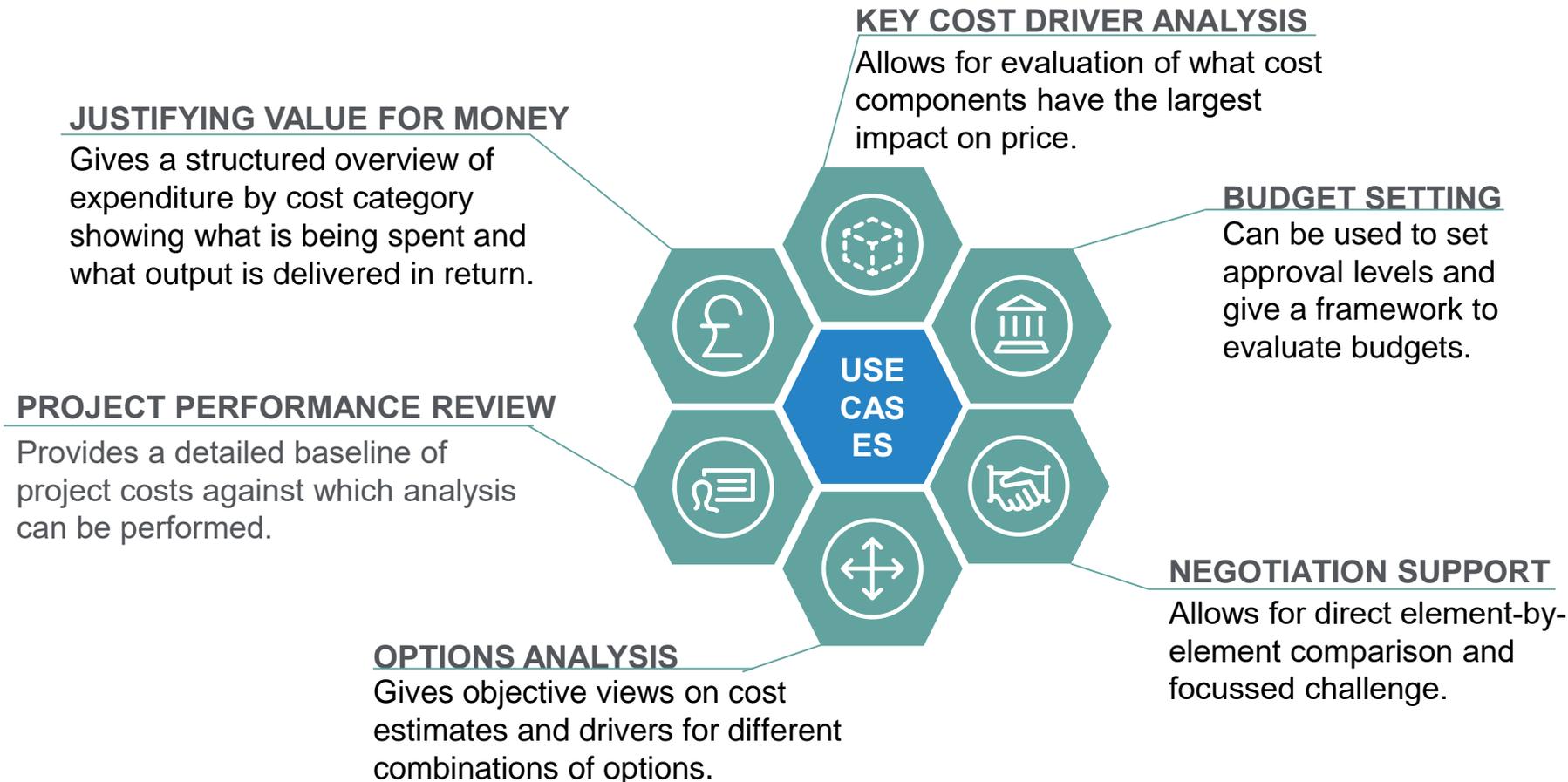
09

They ultimately assist in delivering **better outcomes** to procurement decisions.

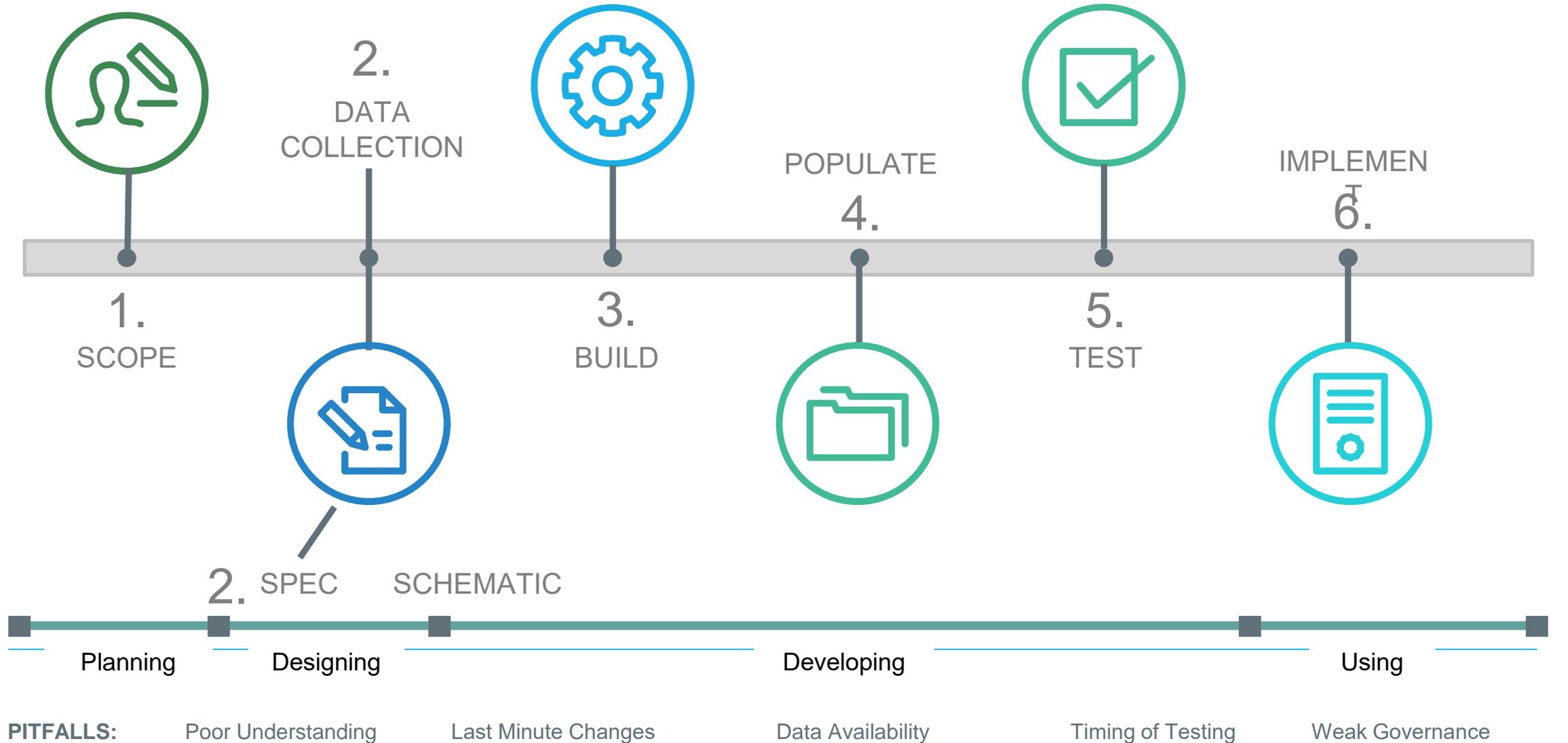


Should Cost Model – Use Cases

SCMs are not used for a single purpose. They bring rigour and detail to situations that benefit from a thorough understanding of costs, their composition and drivers.



Model Development Lifecycle



Planning Cycle for model development

A structured approach to designing a model ensures appropriate engagement at the right time, limiting rework and minimising risk.



Question

What % of Models have errors?

Errors and Impacts

£5.2m arithmetic error leading to a revalued forecast

£0.5m due to a spreadsheet error allowed for over selling of tickets

36,000 names shared in a spreadsheet with hidden rows and columns

£1.6bn – missing minus sign caused overstated capital gains

£170m of lost market capitalisation

\$700m in losses hidden in a spreadsheet

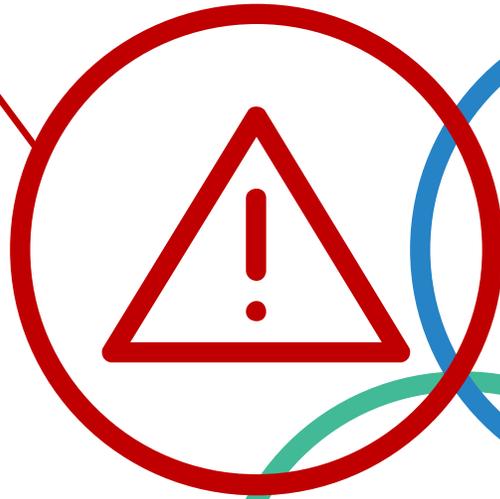
£4.3m spreadsheet error led to an **£8.3m** downgrade in profit

£150m fine for not disclosing a spreadsheet error misstating losses

Error Source Examples

ERROR RATES

Over 90% of models contain errors!
(Eusprig)



SHOULD COST MODEL

- Calculation Error
- Pointing Error
- Hardcoding Error
- Inherent Logic Flaw
- System Error



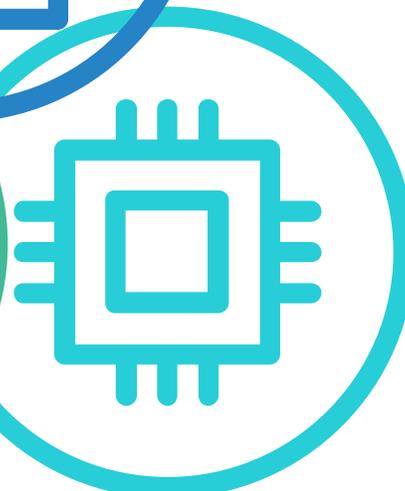
BUSINESS CASE

- Interpretation Error
- Misrepresentation
- Copy-paste error
- Settings Error
- Version Error



DATA

- Low Maturity Data
- Error in Source Data
- Out of Date Data
- Unit Translation Error
- Incorrect Source Use



Some lessons learned



Agree and use templates to guide third party data collection



Understand the financial impact of unforeseen terminations



Don't overengineer the model for the sake of completeness



Consider the cost impact of schedule risk and uncertainty

Key takeaways

- A SCM can help you make **better decisions** and protect government from **low bid bias**
- A SCM may **evolve over time** and its utility is dependent on not only the construction of the model but the quality and **maturity of the data** that underpins it
- Development of SCMs is a **high risk activity** that demands SQEP, structure and governance

Questions?

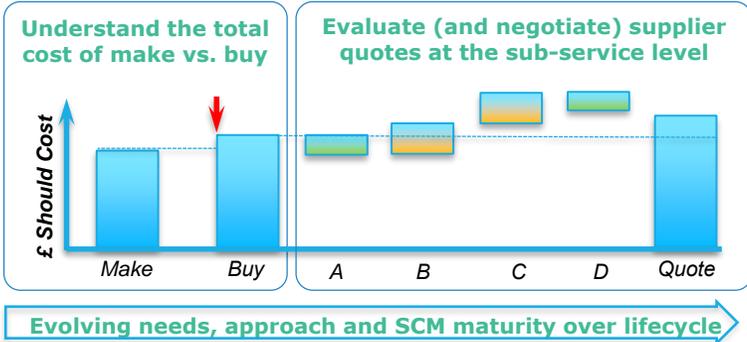
Appendix

Should Cost Modelling on a Page

Developing a Should Cost Model (“SCM”) delivers beneficial outcomes and enhances capability. Using Suitably Qualified and Experienced Personnel (“SQEP”) who follow a structured and well governed approach provides a mechanism to realise these benefits.

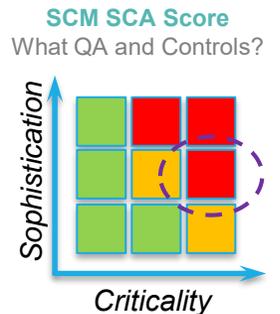
The Playbook sets SCM requirements...

1 Plan



Scope
What does it need to do?

Define service & needs:
 Make or Buy Cost - **Yes**
 Options Analysis - **Yes**
 Monte Carlo Outputs - **No**
 Include Scenarios - **Maybe**
 Run Sensitivities - **Maybe**
 Business Case Use - **Yes**
 Identify key data sources



Roles & Responsibilities
Who does what?

QA (Data vs Logic)
 SCM Developer
 Data Provider
 SCM SRO
 etc...

Plan & Milestones
When are things needed?

3rd Party Support
In-House SQEP?

Phase Sign-Off
Fit-for-purpose?

✓ Build the SCM Internally
 ✓ Outsource some of QA

2 Design

Specification
How will the SCM meet the scope?

Input & Output Templates

Prioritised Features

- ✓✓ Monthly & Annual Summary
- ✓✓ NPV Split Risk / Uncertainty
- ✓ Expandable labour types
- ✗ Produce a waterfall chart

Data Collection Plan
How to get SCM data?

SCM Schematic
How is the SCM organised?

Phase Sign-Off
Fit-for-purpose?

3 Develop

Build & Populate
Produce the SCM

Good Practice

- ✓ **P**lanned
- ✓ **L**ogical
- ✓ **A**ligned
- ✓ **S**eparated
- ✓ **T**ransparent
- ✓ **I**ntegrous
- ✓ **C**hecked

Documentation

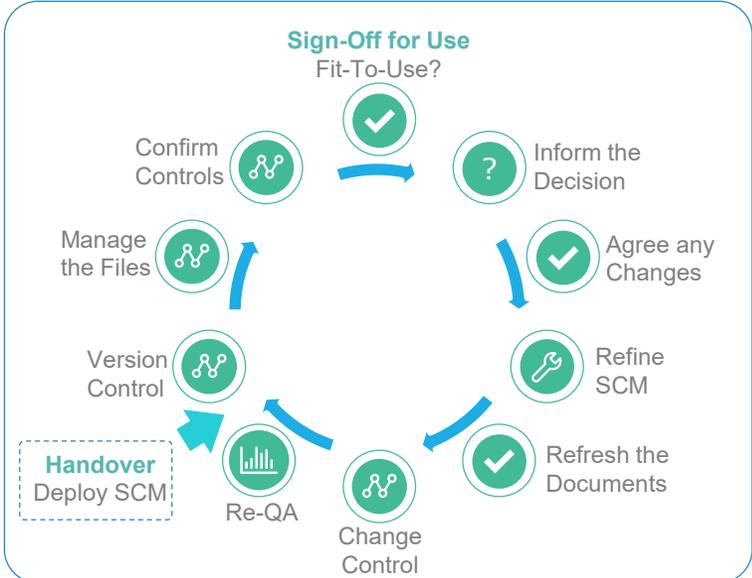
- ✓ SCM User Guide
- ✓ Technical Guide
- ✓ Assumptions Book
- ✓ Record of all QA
- ✓ SCM Limitations
- ✓ In-Use Processes
- ✓ Control Procedures

Quality Assurance
Execute QA Plan

- ✓ Formulaic Review
- ✓ Data Assessment
- ✓ SCM Authentication
- ✓ Analytical Review
- ✓ User + System Test
- ✓ Documents Review

Phase Sign-Off
Fit-for-purpose?

4 Use the SCM



Principles

- Themes**
- Inform Decisions
 - Value Adding
 - Requirement Governed
 - Standards Planned
 - Maturing Evolving
 - Specialist Analytical
 - Technical Controlled
 - Structured Documented
 - Collaborative
 - Protect UK Gov.



How do you account for risk and uncertainty?

What is the difference between...

- Risk – it may or may not happen
- Uncertainty – assumption variability
- OB – is a cognitive bias (+ve or -ve)

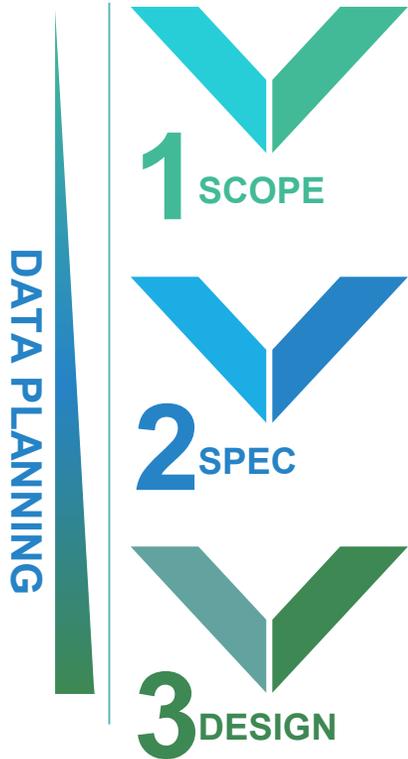
Modeling risk & uncertainty...

- Requires up-front planning
- May require specialist skills
- May require additional tools

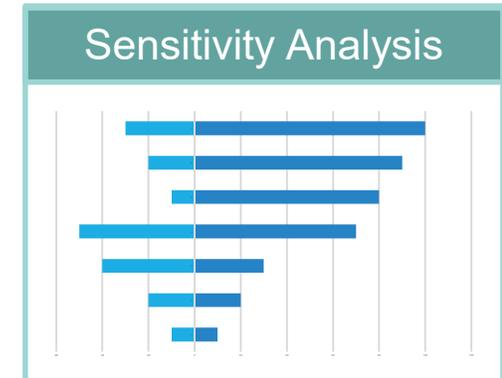
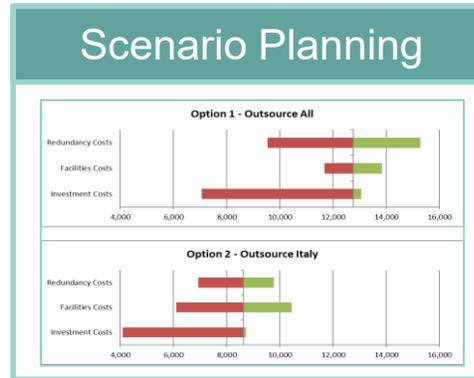
Decision makers should be clear on...

- How risk & uncertainty is included
- How schedule impacts are modelled
- The overall maturity of underlying data

Data impact on SCMs is progressive

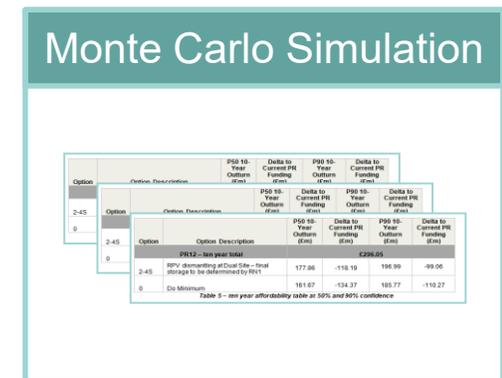


Techniques to model risk and uncertainty are varied and should be considered up-front



Cost Weighted DRL

Level	Use	Source	Data	Methodology
1	Genesis Thinking	Opinion (e.g. SME)	None	None
2	Option Discussion	Consensus Opinion	Unclear	Limited
3	Indicative Estimates	Rough Parametric	Limited	Not Robust
4	Non-Binding	Relationship Based	Basis Uncertain	Logical
5	Non-Contentious	Driver Based	Some Gaps	Robust
6	Initial Decisions	Bottom Up Estimate	Agreed Data	Robust
7	Pre-Approval	Bid Data	Recent Data	Robust
8	Post-Approval	Negotiated	Approved Data	Robust
9	Historical Data	Actual Costs	Actual Data	Robust



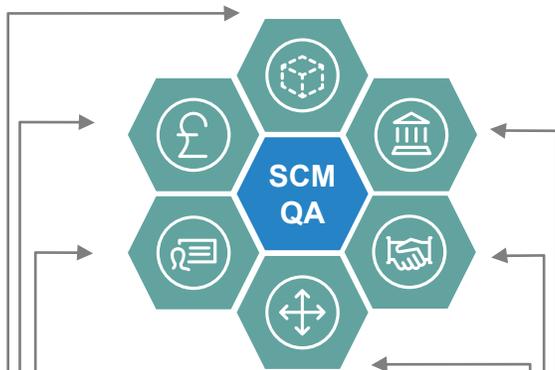
How do you sign-off a SCM as fit for purpose?

Over 90% of models contain errors...

- Data / Calcs / Logic
- Macpherson Report
- The AQUA Book

There are multiple QA techniques

- It is unlikely that any one technique will be sufficient for a SCM



- Data Validation
- Logic Testing
- Authentication
- In-Model Checks
- Good Practice
- Analytical Review

Undertake criticality-sophistication assessment...

- Governance & control needs
- Appropriate QA measures
- Requirements for SQEP

Adhering to 'good practice'...

- Reduces the risk of errors
- Increases SCM flexibility
- Results in better decisions

Following development there are multiple considerations ...

