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1. **Context**

1.1 **Overview**

1.1.1 This note provides high-level guidance for departments on ‘Should Cost Models’ (SCMs), the term used in the *Outsourcing Playbook* to describe whole-life cost modelling. Although the terminology may be new or unfamiliar, departments have a long history in developing cost models from straightforward spreadsheets to complex, specialist models to plan and monitor activity, support decision making, and drive value for money in the delivery of public services. The term ‘Should Cost Model’ (SCM) introduces a standard terminology for central government in order to formalise existing cost modelling activities and set clear expectations, and guidance for what good SCMs look like.

1.1.2 Although this note has an outsourcing focus, it is recognised that Should Cost Modelling applies beyond outsourcing and is relevant to wider decision-making processes for projects. Effective Should Cost Modelling will also involve multiple professional functions including Commercial, Finance or Economic disciplines.

1.1.3 This guidance note is the first of a set of Cabinet Office guidance and tools relating to SCMs being made available to departments; these documents are planned for release in summer 2020. Practitioners should also consult existing good practice including the *Green Book* and *Aqua Book*.

- ‘*Should Cost Model: Guidance Note*’ (this document): Outlining what a SCM is, when and why departments should produce them, and key considerations around developing and/or procuring them. *It is not intended to be a detailed guide on how to develop a SCM in-house.*

- ‘*Central government guidance on designing, building, and managing SCMs*’: Detailed guidance on using internal expertise and resources to design, develop, manage and test SCMs, and associated governance implications.

- ‘*Technical build guidance*’: Guidance, based on good practice principles for building SCMs.

1.2 **Contact**

1.2.1 For complex outsourcing projects, you should consult the Outsourcing Programme before planning a SCM via *project.santiago@cabinetoffice.gov.uk*. 
2. **What is a should cost model?**

2.1 **Introduction to should cost models**

2.1.1 A SCM should provide a clear understanding of the whole life cost of delivering a service, and/or the cost of transforming a service. The SCM will consist of a number of components depending upon the potential delivery options being considered:

- **‘In-house’ model** (also referred to as a ‘Public Sector Comparator’). This is the whole life cost to deliver the service in-house using internal resources and expertise, including acquiring and maintaining assets and the necessary capability. This should be used early in the procurement to compare costs against the expected market cost model at a high-level to inform a Delivery Model Assessment (DMA) (see play 3 in the Outsourcing Playbook).

- **‘Expected Market Cost’ model**. This is the expected whole life cost of procuring a service from a supplier external to the Government, including additional market factors such as risk, profit and supplier overheads. If the decision is to procure all, or part, of a service from an external supplier the ‘Expected Market Cost’ model can be used to inform engagement with bidders. Use early market engagement to ensure the model is comparable to the bids you expect to receive from the market.

2.1.2 A final delivery model will often be a combination of insourcing and outsourcing different components of the service. When a mixed economy delivery model is a potential option, a combination of the ‘in house’ and ‘expected market cost’ models can be used to calculate the cost of the service. This can be referred to as a ‘Mixed economy’ SCM.

2.1.3 ‘In-house’ models, ‘Expected Market Cost’ models and ‘Mixed Economy’ models are all types of ‘Should Cost Model’. They are comprehensive calculations of what a service ‘should’ cost over the life of the service or programme, irrespective of where it has been obtained from. See Figure 1. **The term Should Cost Model (SCM) is used throughout this guidance note to mean all of these terms.**

2.1.4 It is important to define and ensure decision makers are aware of what costs are included in the SCM, how they are treated and the limitations of the SCM. A SCM is an estimate of a specific set of costs under particular circumstances over a defined time period, usually defined as the whole life of the contract, programme, or service.

2.1.5 A SCM is a both a financial model (e.g. they may use financial techniques such as Net Present Value calculations) and an analytical model and should follow the principles set out in the [Green Book](#) and [Aqua Book](#). A SCM will:

- Use analytical techniques, such as unit cost multiplied by unit volume;
- Take account of uncertainty and include relevant risks;

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1 See the [Aqua Book](#) for a more detailed commentary on uncertainty
• Use relevant data, such as day rates and employee numbers; and
• Usually model a number of different options for comparison and sensitivity purposes.

2.2 Levels of complexity

2.2.1 SCMs vary in complexity and the time they take to create. The complexity of a SCM should be proportional to and reflective of the complexity and criticality of a service. A very simple SCM could be key cost drivers and assumptions captured in a spreadsheet, which may be appropriate for a low value, simple, stable service. For complex outsourced services, the SCM could be a detailed financial model which might take a number of months to prepare.

2.2.2 If going to tender, factor in the time that suppliers will need to create their equivalent cost models when setting the procurement timetable.

2.2.3 Simple SCMs with fewer data sets and less complex calculations are less resource intensive to produce than complex SCMs with advanced features. Sufficient time to develop and test the SCM should be planned into any programme or procurement activity.

2.2.4 The level of detail in a SCM can vary significantly and it may need to be iteratively developed over time as more information becomes available and as greater certainty is required. Simple models based on an initial service definition and key cost drivers may be appropriate during the early stages of the decision-making process and procurement process.

2.2.5 As the decision process and procurement progresses, the service specification and other determining factors develop, and greater confidence is required, SCMs may need to become more detailed and the data within them more robust. There may be a need to revisit and recalibrate the assumptions. For example, if the decision is taken to buy (i.e. outsource) a service, the ‘Expected Market Cost’ model may require further development to allow for greater insight into the cost of component services and potentially even their evaluation as part of supplier selection, provided the SCM is disclosed to the bidders. See Figure 1.

“SCMs vary in complexity and the time they take to create. The complexity of a SCM should be proportional to and reflective of the complexity and criticality of a service.”
2.3 Evolution of a should cost model

2.3.1 The evolution of a SCM is similar to how the Green Book refers to Business Cases developing over time and should be iterated as part of the Delivery Model Assessment:

- **Initial Should Cost Modelling** - Informs the initial strategic Delivery Model Assessment (Strategic Business Case).

- **Developed Should Cost Modelling** – A more detailed model which provides an evaluation framework for options to demonstrate value for money, including the comparison of delivery operating models and a ‘make’ or ‘buy’ decision (Outline Business Case).

- **Evaluative Should Cost Modelling** – This is a full cost model including all cost drivers, and verified and validated data to provide support to the cost evaluation of the costs of supplier returns that have been received. This is possible only where the SCM has been made available to bidders during the procurement. Departments should carefully consider the potential risks and benefits of sharing SCMs (Full Business Case).

- **Performance Should Cost Modelling** – This is a full cost model using actual cost data and volumes allowing comparison to expectations and robust open book contract management (Full Business Case).
3. **Why produce a SCM?**

### 3.1 Benefits of should cost models

#### 3.1.1
The two fundamental benefits of SCMs are to provide a better understanding of the costs associated with different service delivery models; and to provide insight into the potential service delivery models. SCMs help protect the Government from ‘low bid bias’ (the tendency to favour the lowest cost bid as the preferred option) by providing a mechanism to investigate and better understand costs that are significantly lower than expected.

#### 3.1.2
For complex projects, departments are required to refer any bid that is more than 10% lower than the average of all bids or the SCM to the Commercial Continuous Improvement Team in the Cabinet Office.

#### 3.1.3
SCMs are powerful tools and also support a much wider range of analysis. These may be best understood by reference to the Five Case model outlined in the Green Book:

- **Strategic Case** – Supporting the case for change by clearly defining the scope of the offering and associated delivery costs.

- **Economic Case** – Having a granular bottom-up model will allow for the costing elements of the business case to be better articulated and understood, and support discussions around options and value for money.

- **Commercial Case** – Designing a SCM, particularly in the context of first generation outsourcing, or where services are novel will help drive understanding of the commercial viability of a service through a better understanding of its components and whether or not there is a market from which the service can be procured.

- **Financial Case** – Having a granular cost profile of a target service will help determine issues of affordability and whether or not a project is financially viable through highlighting costs of transformation and operation.

- **Management Case** – Having a view of what the programme delivery costs should be will assist in overall project management. It can provide structure to reporting by providing a baseline set of costs against which deviations can be measured.
In addition to the initial Delivery Model Assessment, SCMs can support different elements of the procurement lifecycle, provided they are supported with accurate management information and market data.

This can include:

**Options Analysis** – Gives objective views on cost estimates and drivers for different option combinations, broadening insight into service delivery options;

**Key Cost Driver Analysis** – Provides additional insight through enabling a more detailed understanding of key factors that influence cost and raise awareness of their underlying drivers;

**Maximising Value for Money** – Provides cost by cost category, providing transparency over the cost of something and the output delivered in return;

**Negotiation Support** – Allows for element level comparison between different bidders’ proposals and the SCM to identify and understand differences between a bidder’s proposed price and the expected baseline during competitive procedure with negotiation or competitive dialogue procurement processes;

**Budget Setting** – Can be used to give a framework to inform budgets;

**Project Performance Review** – Once a contract has been signed, the supporting SCM can be updated with the contracted costs to provide a cost baseline against which analysis can be performed, highlighting variances between outturn and plan at a granular level and enabling further investigation; and

**Contract Management** – Provides a cost baseline which, along with actual costs, can be used to manage the performance of the contract and supplier, challenge VFM and inform contract change.
4. When to produce a SCM

4.1 Requirement for a should cost model

4.1.1 It is good practice to produce a SCM for all procurements and significant spending decisions. The Playbook sets out that where a complex service is being considered for outsourcing, a ‘Should Cost Model’ must be produced. The need for a SCM should be determined as part of the planning stage of the business case and procurement, prior to advertising the contract and the publication of any procurement documents.

4.1.2 The SCM should be used in conjunction with an analysis of non-cost criteria as part of a Delivery Model Assessment to inform the recommendation as to whether a department should deliver a service, or part of a service, in-house, procure from the market or adopt a hybrid solution.

4.1.3 Prior to starting the SCM it is important to create a clear service definition, including what good looks, the desired outcomes and key performance indicators to ensure modelling is completed to the right level. Further guidance on creating a service definition and Delivery Model Assessments is available here.

4.2 Using should cost models to assess the deliverability of bids

4.2.1 Through providing insight into potential delivery models and cost drivers, SCMs should be used to devise the evaluation model. The SCM can inform the understanding of what costs should be included and inform discussion with the bidders.

4.2.2 SCMs can be used during a competitive dialogue or competitive procedure with negotiation to ensure suppliers provide transparency throughout the dialogue/negotiation of all key cost drivers over the lifespan of any resulting contract. A SCM can provide the department with a better understanding of the costs that go into providing a service. Where costs are higher or lower than expected this should prompt a discussion with the bidder around how they arrived at their costing. The SCM will not normally be shared with bidders during dialogue/negotiation but used to inform the department’s negotiation position and the robustness and deliverability of bids.

“The SCM will not normally be shared with bidders during dialogue/negotiation but used to inform the department’s negotiation position and the robustness and deliverability of bids.”
4.3 Using should cost models as formal evaluation criteria

4.3.1 SCMs can only be used as formal evaluation criteria for final bids if they have been disclosed to bidders during the procurement. How the SCM will be used for the evaluation and how bids will be scored against the SCM must be clearly set out in the procurement documents. If a department doesn’t want to use a SCM it cannot be used for evaluation purposes. If disclosed, a SCM can be used to provide:

- **Better understanding of the make-up of costs and service components.** SCMs can be used to provide deeper insight into the costing of elements of a bid. A SCM can provide granular insight into the elements that make up the cost of a service. Figure 2 is an example of this.

- **Insight into potential risks relating to costing.** Whilst SCMs cannot inform assessment of delivery risks directly, they can show the impact of risks materialising and highlight areas where costs may appear to be too low or high, and therefore represent a risk. Having a well-reasoned and internally agreed SCM provides an opportunity to investigate where service delivery costs are higher or lower and allow for targeted clarification if appropriate. This will deliver greater insight into the supply side assumptions and costs.

**Figure 2: Using an SCM to compare service lines**

<table>
<thead>
<tr>
<th>In House</th>
<th>Expected Market Cost</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>Breakfast service</td>
<td>Breakfast service</td>
</tr>
<tr>
<td>Equipment</td>
<td>Lunch service</td>
<td>Lunch service</td>
</tr>
<tr>
<td>Goods</td>
<td>Dinner service</td>
<td>Dinner service</td>
</tr>
<tr>
<td>Facilities</td>
<td>Out of hours service</td>
<td>Out of hours service</td>
</tr>
</tbody>
</table>

Cost categories may be different with internal and external delivery models.
5. **Producing a Should Cost Model**

5.1 Five stages

5.1.1 Whether sophisticated or simple, producing a SCM will follow a process with five distinct stages. Interaction may be required across a number of different functions ranging across financial, economic, statistical or commercial disciplines. The approach to model development can be summarised as:

- **Plan**: determine the SCM’s complexity, scope and whether to develop in-house or procure from the market.

- **Design**: create a delivery plan, specification and design for the SCM. The delivery plan should reinforce timelines, resourcing requirements and include the data inputs the model will use. This will be supported by a model specification and design, consisting of a model without any calculation methodology within it, used to codify the inputs to and outputs from the tool. It should contain written explanations of key calculations and formulae that will be designed into the model together with the overarching design. The specification should be approved prior to commencing full model development. The document ‘Central Government Guidance on Designing, Building and Managing Should Cost Models’ is under development and will cover the production of a model specification in detail.

- **Develop**: build and populate the model. It is important to follow good practice modelling principles to minimise risk and increase usability of the SCM. These should be used to guide development of the model, taking the agreed specification and adding in the necessary calculations. As the model is developed the model developer should perform self-testing prior to submitting it for formal Quality Assurance (QA).

- **Test**: quality assure and sign-off the model. The scoping document will specify the tests to be performed on the SCM and this phase of model development is when these tests are performed. QA is discussed in detail in HMT’s ‘Review of Quality Assurance of Government Analytical Models’ and the Aqua Book.

- **Use**: put in place governance and control processes to ensure the model remains fit-for-purpose. Once developed, tested and appropriately signed off as fit for purpose, the model is ready to be used. At this point appropriate governance and control is required to help ensure the SCM remains fit for purpose over its lifecycle.
6. Planning a SCM

6.1 Structured approach

6.1.1 Once the decision to produce a SCM has been taken, it is important to plan it properly and provide a structured approach to onward development by:

- Determining the SCM’s criticality and sophistication, and the associated requirements for QA and governance;
- Outlining the SCM’s purpose, functionality and data requirements; and
- Establishing the resourcing requirement and whether this is available in-house or needs to be procured from the market.

6.1.2 The approach should be captured in a detailed scoping document. This is the bridge that translates recommendations into practical SCM development activities. A SCM scope needs to be created on a model by model basis.

6.1.3 SCMs that inform critical decisions may be more complicated and contain more advanced features than models used to support less critical decisions. Greater sophistication adds to development time and invariably brings a greater risk of error. There is a balance to be struck and the development of SCMs should be driven by the principle of proportionality.

6.1.4 To assist in determining how to develop the SCM, an initial model assessment should be completed. The Cabinet Office Tiering Tool should be used to provide an initial indicator of the criticality of a SCM and the impact of the decision to the business. It is important to consider how more advanced features, functions, the novelty of the model and whether the procurement activity has been undertaken before impact the risk profile of the tool.

6.1.5 These considerations should inform thinking around:

- Procedures and Controls – what methods should be used to shape and manage the SCM over its lifecycle, including what QA tests and controls should be applied to help assure its fitness for purpose; and
- Roles and Responsibilities – the requirement for specific roles and responsibilities across the SCM’s lifecycle. This will include determining whether people are qualified and possess appropriate qualifications. It will also extend to assessing whether people have sufficient experience to perform the task.2

6.1.6 As part of the model scope, the factors outlined in Figure 3 should be considered proportionally in the context of the criticality of the SCM. The scope should be owned by the model SRO who has overall responsibility for the SCM’s development. Once prepared, the SCM scope should be formally agreed and signed off via appropriate governance.

### Figure 3: Key factors in developing a SCM scope

#### 1: Overview

- Frame the challenge by defining the SCM’s primary function (e.g. what does it need to show or compare?) and required accuracy (e.g. +/- 10%). Outline user requirements, key outputs, and what supporting documentation will be required (e.g. a technical specification, user guide, etc.)

- Identify if similar modelling has been undertaken previously and lessons learnt. For complex outsourcing projects, departments should contact the Outsourcing Programme at project.santiago@cabinetoffice.gov.uk for advice.

- Set out the model development timelines and key milestones, considering interdependencies with other activities including the Delivery Model Assessment. Keep it as simple as possible to achieve the goal, and keep complexity and cost of modelling proportionate to the cost of the end service/issues being modelled.

**Key Questions**

- What issue is the model intended to solve?
- What outputs are required?
- What are user requirements and how will you support them?
- How accurate does the model need to be?
- What is the project and model development timescale?
- Who needs to sign off on the model scope and specification?
- What is the planned handover from the development team to users?

#### 2: Costs

- Capture the comprehensive range of a service’s cost components. This should include costs required to deliver and/or transform a service (e.g. people, licences and utilities and any Capital Expenditure costs such as space/property, equipment), the costs of a service itself (e.g. cloud storage costs), and broader considerations including business factors (e.g. management fees, overheads, indexation and profit), as well as other socioeconomic factors (e.g. social value). For each component, set out the level of detail or granularity required.

- These considerations allow for early discussion about the nature of the service under consideration. They also help set the Delivery Model Assessment agenda, what costs could differentiate between potential service delivery options and at what level of detail does analysis have to be undertaken in order to be meaningful. Detailed scoping of costs helps set the limits around where the model will be able to operate and what decisions it can support.

**Key Questions**

- What are the range of costs to be included in the model? What are the main assumptions behind these costs, and what are their key drivers?
• Do costs need to be split between fixed and variable, direct or indirect? What assumptions should be used to drive this?
• What depth of analysis will the model go to?
• What are the KPIs? Have these been captured through the cost components?

3: Modelling Techniques
• Specify what techniques will be used to provide analytical insight. It is important to consider the use of more advanced techniques, such as Monte Carlo simulation, and the need to balance the potential for additional insight with the impacts from a resourcing perspective.3
• More advanced techniques that require specialist input from experts should be considered, for example, considerations around tax, pensions, or specific econometric analysis.
• How risk and uncertainty will be managed should be documented within the scope. Similarly, whether the model should be designed to incorporate different scenarios, detail sensitivities or use statistical techniques should also be considered. Risk and uncertainty in ‘In-house’ models should be treated the same in ‘Expected Market Cost’ models to allow a fair and robust comparison between delivery model options.

Key Questions
• What modelling techniques will be used?
• What specialist input is required? When and how will this be secured?
• How will risk be managed? What risks will be included in the SCM and have these been tested with the market?
• How will uncertainty be managed?
• Will the model include different scenarios?
• How will sensitivities be treated?
• What treatment has been applied to account for optimism bias?

4: Data and assumptions
• Costs and modelling techniques inform the design of the SCM but also provide direction on what data is necessary to operate the model. The required data sets should be listed in the SCM scope including where data will be sourced from, when it will be available and who will provide it. This will help to minimise the risk of misalignment between the data the model needs to operate and its availability.

3 Monte Carlo simulation is a technique that can be used to understand the impact of risk and uncertainty in cost forecasts. It gives the decision maker a range of possible outcomes and the probabilities that they will occur.
• Focusing on data availability and data quality at the planning stage will shape SCM development. Where data is not available, it provides early awareness to develop alternative plans to source, develop or mature data to the required level for the model.

• Where data is not readily available or there are gaps in a data set, it is important to consider what assumptions will need to be made in the model and where they are going to be used.

Key Questions
• What are the key data inputs? What is the process for collecting the data?
• How much data is going to go into the model? Financial? Volumetric? Transformational? Operational? e.g. headcount, service levels etc.
• What format will the data be in? Are validation checks required?
• Is the data likely to change during development and after the final version?
• Where will assumptions have to be used in place of data sets?

5: Tool Selection

• Documenting the cost components of the model, the techniques it will use and the volume of data it will consume will allow for selection of an appropriate tool.

• SCMs will most likely be built using Microsoft Excel. Where data volumes are significant and cannot be reduced, database programmes, such as Microsoft Access could be used to manage the additional requirement.

Key Questions
• What tool is being used?
• Does the model need to interact with other systems?
• Does the model need to conform to specific guidelines?

6: Quality Assurance Plan

• Performing an initial model assessment will identify appropriate QA techniques to be performed. It is important to understand the QA that will be performed to ensure sufficient time and resources are set aside to undertake it.

Key Questions
• What review procedures will be required? e.g. verification and validation, analytical review, stress testing.
• What level of assurance will be required over the model’s outputs?
• Is model review by an independent entity required?
7. Establishing the resource requirement

7.1 Suitably qualified and experienced people

7.1.1 The scoping document will inform resource requirements. For all models it is necessary to have suitably qualified and experienced people with sufficient time and resource to perform their responsibilities. These two factors play key roles in developing robust models in a manner that is informed by good practice and manages risks. Typical roles that should be considered when establishing a resource plan are set out in Figure 4. These are roles, not job titles, and several roles may be performed by the same person. For example, the model architect and developer roles may be performed by the same individual for less complex models.

7.1.2 A distinction should be maintained between individuals responsible for developing models and those who will review or provide QA support.

7.1.3 It is important to assess whether internal resources possess sufficient skills and experience, and are available to support the SCM development and testing or external resources are required. There are no universal professional qualifications to cover the development and testing of a model, however analytical, finance and economic expertise is required to produce a robust SCM. Individuals responsible for financial input should have relevant financial qualifications and appropriate costing experience; individuals performing any kind of statistical function should have appropriate mathematical qualifications to support. See section 8 on procuring a SCM.

“There are no universal professional qualifications to cover the development and testing of a model, however analytical, finance and economic expertise is required to produce a robust should cost model.”
### Figure 4: Typical roles in the development of a SCM

<table>
<thead>
<tr>
<th>Role</th>
<th>Typical Responsibilities</th>
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<tbody>
<tr>
<td><strong>Model Developer</strong></td>
<td>• Driving production of the SCM Specification, Design, Data, QA and Delivery Plans and seeking Sign-Off ahead of SCM Development.</td>
</tr>
<tr>
<td></td>
<td>• Updating the plans and documents to reflect any agreed changes to the SCM Scope, Specification or Design.</td>
</tr>
<tr>
<td></td>
<td>• Building the SCM in line with requirements and good practice guidance.</td>
</tr>
<tr>
<td></td>
<td>• Populating the SCM with data for self-testing and formal QA purposes and to support handover and release of the SCM for use.</td>
</tr>
<tr>
<td></td>
<td>• Producing and updating the Book of Assumptions with key information pertaining to the collected data.</td>
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<tr>
<td></td>
<td>• Undertaking self-testing of the SCM throughout development and prior to release for formal QA.</td>
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<tr>
<td></td>
<td>• Working with Quality Assurers to implement changes required to address issues identified as part of formal QA processes.</td>
</tr>
<tr>
<td></td>
<td>• Producing the SCM User Guide and, if required, Handover training materials and SCM Technical Guide.</td>
</tr>
<tr>
<td></td>
<td>• Undertaking demonstrations and familiarisation sessions as required and producing interim results to support in-flight QA.</td>
</tr>
<tr>
<td></td>
<td>• Implementing any File Management procedures that may be applicable during the development of the SCM.</td>
</tr>
<tr>
<td><strong>Model SRO</strong></td>
<td>• Senior Responsible Owner who takes overall responsibility for the SCM and its use, including its governance and QA process throughout its lifecycle.</td>
</tr>
<tr>
<td><strong>Model Customers</strong></td>
<td>• Inputting to the SCM Scope and Specification and confirming the suitability of the SCM design to support decision-making requirements.</td>
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<tr>
<td></td>
<td>• Inputting to the Delivery Plan and confirming that the overall timescales are in-line with requirements.</td>
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<tr>
<td><strong>Model Operator</strong></td>
<td>• Undertake familiarisation and/or training as required to operate the SCM.</td>
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<tr>
<td></td>
<td>• Implementing the required File Management processes and procedures.</td>
</tr>
<tr>
<td></td>
<td>• Running the SCM to produce the required outputs and to interpret the result.</td>
</tr>
<tr>
<td></td>
<td>• Refreshing the input data as required to run the SCM and produce the outputs.</td>
</tr>
<tr>
<td><strong>Model Architect</strong></td>
<td>• Leading the model design and taking responsibility for the associated documentation, including agreeing any required changes during development.</td>
</tr>
<tr>
<td></td>
<td>• Overseeing the model development process and providing technical and design support and challenge during build.</td>
</tr>
<tr>
<td><strong>Data Providers</strong></td>
<td>• Inputting to all relevant aspects of the Data Plan including the provisional timescales and risks.</td>
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<tr>
<td></td>
<td>• Sourcing the data required for the SCM and undertaking any pre-processing that may be required.</td>
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<tr>
<td></td>
<td>• Updating key stakeholders on progress and any required changes to the Data and Delivery Plans.</td>
</tr>
<tr>
<td><strong>Quality Assurers</strong></td>
<td>• Undertaking QA processes and procedures and producing the required documentation.</td>
</tr>
<tr>
<td></td>
<td>• Liaising with the Model Developer to explain identified issues where further clarity is needed and undertaking re-QA as required.</td>
</tr>
</tbody>
</table>
8. **Procuring a SCM**

8.1 **Commercial considerations**

8.1.1 Where internal resources are insufficient or unavailable, external service providers may be best placed to deliver all, or part, of a SCM. There are a number of specific considerations before procuring all, or part, of a SCM to support its development:

8.1.2 **Plan**

- What modelling credentials do third parties have to develop and/or test SCMs to public sector guidelines and requirements?
- What market credentials do third parties have to support the development (how familiar are suppliers with the target market and do they possess appropriate technical skills)?
- What are the estimated delivery timelines, what is being delivered (e.g. model design, draft model, tested model, user guide) and when? Is the supplier of the model also a potential provider of the service? Is there a conflict of interest concern?

8.1.3 **Design**

- What will the level of interaction with the external developer be during the design phase to ensure requirements are fully reflected and will this be agreed via a detailed SCM specification and design?
- If changes are required to the SCM design once development is underway how will these be agreed and accommodated?

8.1.4 **Develop**

- Are developers proficient in building SCMs to good practice guidelines?
- Will interim versions of the SCM be shared for comment and what are the plans for this, including accommodating any feedback?
- Will the developer be responsible for populating the SCM with data and what, if any, data will the developer be responsible for providing?
- It is normal for data to be provided by the customer to any 3rd party provider; are plans to source and make the data available in place?
- In addition to the SCM, if required, will delivery include a user guide, technical guide, training materials and book of assumptions?
- Will any software add-ins (e.g., for Monte Carlo simulation) be required in the development of the SCM and are there licensing implications?
8.1.5 **Testing**

- What tests will be performed, what will they entail and how complete will they be?
- For verification, will any additional software will be used to support this and what reports will be provided?
- What documentation will be provided on the test procedures applied and the resulting findings?
- How many testing ‘passes’ (where identified issues are fixed by the developer and then retested) have been assumed and will be supported?

8.1.6 **Using**

- Will the developer operate the model and/or what level of training and support will be provided for internal SCM operators?
- Is there sufficient in-house expertise to handle supplier queries or anomalies between the SCM and their own cost modelling during the bid?
- Who owns the Intellectual Property and are there any restrictions on distribution, use or redevelopment of the SCM?
- What is the level of post-delivery support for bug-fixing or refinements?
- Will the SCM be password protected and, if so, will all passwords be provided?

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**The CCS’ Management Consultancy Framework Two (MCF2) can be used to procure expertise to develop a SCM although departments may wish to consider other procurement options.**

Departments can consult the supplier shortlisting tool to identify the specific services that they require. The following capability categories align most closely with the development of SCMs:

- Forecasting, planning, and development (Lot 1)
- Opex/Capex (Lot 2)
- Budget management (Lot 2)
- Options appraisal (Lot 2)
- Data and analytics (Lot 4)

Capability in these areas is not a guarantee of a supplier being suitable for the provision of a specific SCM, and departments should conduct a thorough procurement process to ensure that a supplier is suitably qualified to create an SCM.