

## Business Case for Understanding and Selecting Modelling

This business case was prepared by the Applying Data Science and Modern Methods Group, and is submitted to the HLG-MOS for their approval.

Type of Activity	
<input checked="" type="checkbox"/> New activity	<input type="checkbox"/> Extension of existing activity
Proposed Modernisation Group(s) for Activity	
<input checked="" type="checkbox"/> Applying Data Science and Modern Methods	<input type="checkbox"/> Blue Skies Thinking
<input type="checkbox"/> Capabilities and Communication	<input type="checkbox"/> Supporting Standards
<input type="checkbox"/> <i>Other:</i>	
Purpose	
<p>There is a large and rapidly developing collection of modern methods and different machine learning models, but the information is scattered with little overarching guidance. It creates a steep learning curve and barriers for National Statistical Offices (NSOs) to select an appropriate method for a particular problem.</p> <p>This business case aims to consolidate knowledge from NSOs into guidance that enables users to have a comprehensive understanding on how different methods and models fit different types of problem, data and purposes, thereby facilitating the selection of the most suitable solutions.</p>	
Description of the activity and deliverable(s)	
<p>Use cases for statistical methods and machine learning models will be collected and documented. Guidance will be provided to describe the decision process for models and methods, highlighting the different selection criteria that a user should consider. High level guidance for model selection from a strategic perspective, as well as tools that can facilitate collaboration across NSOs in modern methods will be produced.</p> <p>Deliverables:</p> <ol style="list-style-type: none"> <li>1) Standardised means of describing use cases as well as methods and models.</li> <li>2) A collection of use cases with their associated most suitable methods and models.</li> <li>3) An initial decision tree of methods and models, classified in families based on the perspective of a user.</li> <li>4) Guidance on how to select, describe and use methods and models at an organisational level.</li> </ol> <p>The 2023 activity would be in the form of a working proof of concept (e.g., a manual, standalone guidance and a wiki) that establishes the framework for further description of methods and models. It would not be an exhaustive collection of all possible use cases, methods and models, but a core set that can be extended over successive periods.</p>	
Alternatives considered	
<p>NSOs have to go through a lengthy process and learning curve to find a suitable model. Learning about 'what works' in a piecemeal fashion in conferences and meetings without common standards.</p>	

<b>How does it relate to the HLG-MOS vision and other activities under the Group or HLG-MOS?</b>
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This business case aligns with the HLG-MOS vision and values, especially on supporting a flexible, result oriented and agile approach.
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<b>Proposed start and end dates</b>
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<b>Start:</b> January 2023
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<b>End:</b> December 2023
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