

A background image showing a hand pointing towards a series of data charts, including a bar chart and a line graph, all rendered in a green and white color scheme.

Sustaining analytical driven advantage requires continuous integration of data science outputs into business processes and their supporting applications. In the absence of well thought out integration processes the operationalisation of model outputs can become subject to the traditional data quality issues of accuracy, completeness, timeliness and validity.

At Agile Solutions we recommend early adoption of robust mechanisms for data science model integration. Loosely coupled integration patterns with standardisation at their heart, can enable faster time to value and wider enterprise adoption of key data science initiatives. This article discusses some of the key considerations for those planning the design and implementation of data science model integration.

Model integration solutions should provide data science teams with a high degree of flexibility in terms of output frequency, and output timings. In other words, model integration processes should be able to accommodate infrequent data science outputs, that occur at any time of the day or night. Systems that consume model outputs should be configured to operate on the latest approved model outputs, such that the business processes they support can be continuous and remain independent of upstream data science teams.

Where model output frequency is variable, the ability to track and audit the integration of models into downstream applications and business processes is essential. At Agile Solutions we recommend the integration of core model meta data alongside model outputs, enabling detailed tracking of attributes such as model version, model type, model run date/time and next expected model run date.

Integration of quality model meta data enables strong auditability of the real-world application of models, and close alignment between business and data science teams.

The final consideration for successful model integration requires integration processes that can facilitate dynamic model outputs. Whilst specific models will normally be integrated into a fixed set of business process, for example churn and propensity models will frequently integrate into Marketing business processes, the data payload itself will need to incorporate a degree of variability. For example, a customer propensity model may consistently contain details of individuals who are likely to respond to a specific marketing campaign, whilst at the same time containing variable contextual information such as product, geographic location and purchasing channel. At Agile Solutions we recommend model integration processes are designed to accommodate payload variability, independently of technical teams and manual intervention, in order that model operationalization remains fast and effective.

If you would like to understand more about our recommendations for successful model integration, please [get in touch](#).