



# Independent Model Validation through DataRobot's AI Services

Fintech companies and financial institutions are increasingly relying on mission-critical predictive models to make decisions. However, this growing reliance on model building through machine learning has also increased the stakes for banks and fintechs operating in a highly regulated industry. With regulatory standards higher than ever, it is critical for fintech companies using machine learning models to consider the challenges of meeting these stringent industry standards, lest they or their partner banks face heavy fines.

For one fintech company (anonymized for this case study, to preserve their competitive advantage and not reveal too much of their "secret sauce"), their search to align their business process to regulatory compliance requirements led them to DataRobot and its AI Services expert advisory services in model risk management. Although the Company was already using DataRobot's automated machine learning platform to expand and improve their model-building, they needed to accelerate the alignment of their business process to model risk management regulation. This is where DataRobot was able to make a fast and reliable impact.

## Company Info:

This leading US-based fintech helps customers across all industries obtain the capital and payment plans they need to purchase goods and services. They also help merchants and service suppliers increase sales through credit programs.

**Location:** USA

**Industry:** Fintech, banking

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Head of Data Science



According to the Head of Data Science, “I thought there was a faster way to do model development and validation, and DataRobot gave us the flexibility to build certain models that we weren’t currently building and ensure those models met the high bar for regulatory compliance. Now, our credit scoring model doesn’t have to be a logistic regression if we are using DataRobot. DataRobot opened the door to highly accurate and cutting edge machine learning models that are driving bottom line growth for our company.”

With several models built on DataRobot’s platform and deployed into production – including an internal credit score model, a fraud score model, and a dealer score model – the Company experienced big improvements in flexibility and model diversification, deployment speed, and model accuracy of their machine learning models.

We talk with our customer-facing data scientist on a monthly basis, and he always has ideas for us. We’ve had some tough questions, and he’s always been able to help us through any challenging issues.

However, working closely with one of DataRobot’s Customer-Facing Data Scientists convinced the Head of Data Science that DataRobot not only offered a fast and flexible automated machine learning platform but also provided significant data science expertise. When an independent model validation was needed after partnering with a bank – a critical component of their partnership – that data science expertise from DataRobot proved to be a strong selling point.

“We talk with our customer-facing data scientist on a monthly basis, and he always has ideas for us,” said the Head of Data Science. “We’ve had some tough questions, and he’s always been able to help us through any challenging issues. I chose DataRobot’s independent AI Service experts for model validation help because I trusted their core competency in data science as well as their subject matter expertise in model risk management regulatory compliance. That’s why DataRobot has an advantage over other third-party compliance groups. I didn’t want somebody who’s only a compliance expert trying to validate our gradient-boosted machine learning model.”

## DataRobot AI Services and Model Validation

The fintech was primarily concerned with the regulatory guidelines for model risk management (e.g., Federal Reserve SR-11-7, FDIC FIL-22-2017). Those regulations require, among many other things, that a model is independently validated prior to its use by the business. All models built by the business would then face independent validation to ensure they’re fully compliant.

“DataRobot adds tremendous value by automating many of the most complex aspects of building and deploying a machine learning model,” said the Head of Data Science. “The DataRobot platform is very strong in terms of providing transparency, explainability, and interpretability of the models it builds, which allows my team of domain experts the transparency they need to ensure our models comply with other regulation such as the Fair Credit Reporting Act (FCRA), which stipulates that the models include only those attributes that are allowed by FCRA.”



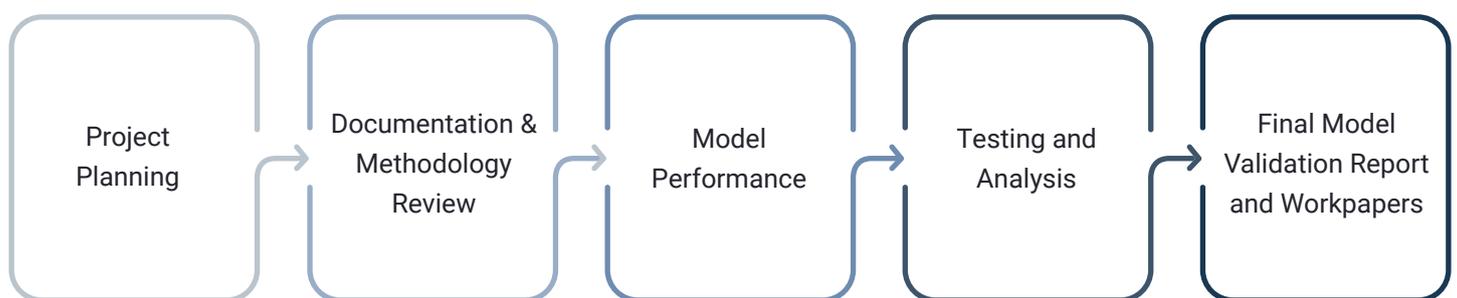
To have their models validated and pass muster with regulators, the Company has to prove that their model is sound. The Head of Data Science had some concerns about third-party compliance firms – including Big 4 firms – because they didn't necessarily have the data science expertise. "I was pretty worried because this compliance firm wouldn't even know what our model was, let alone how to validate it!" said the Head of Data Science. That's when he proposed that they engage with DataRobot's AI Services – DataRobot's consultancy program – to independently validate their models so that the Company would have the confidence necessary to meet the rigorous regulatory expectations required by their partner bank.

The independence of the validation process was a critical component and the AI Services team at DataRobot operates autonomously from the rest of the company. The AI Services team is comprised of highly specialized data scientists and industry experts who are subject matter experts in the model risk management, banking, and compliance industries, making them a perfect fit to help the Company with their model validation requirements.

If DataRobot AI Services sees a gradient-boosted model, they know what it is, they won't freak out, they know how it's built, and they know how to effectively validate it.

"If DataRobot AI Services sees a gradient-boosted model, they know what it is, they won't freak out, they know how it's built, and they know how to effectively validate it," said the Head of Data Science. "Whereas the compliance shop, if they validated our model, they'd probably say 'I don't know if we can trust these types of models, we don't know how it works.' So that's why we chose the expertise of DataRobot's AI Services to validate this model that is critical to our business."

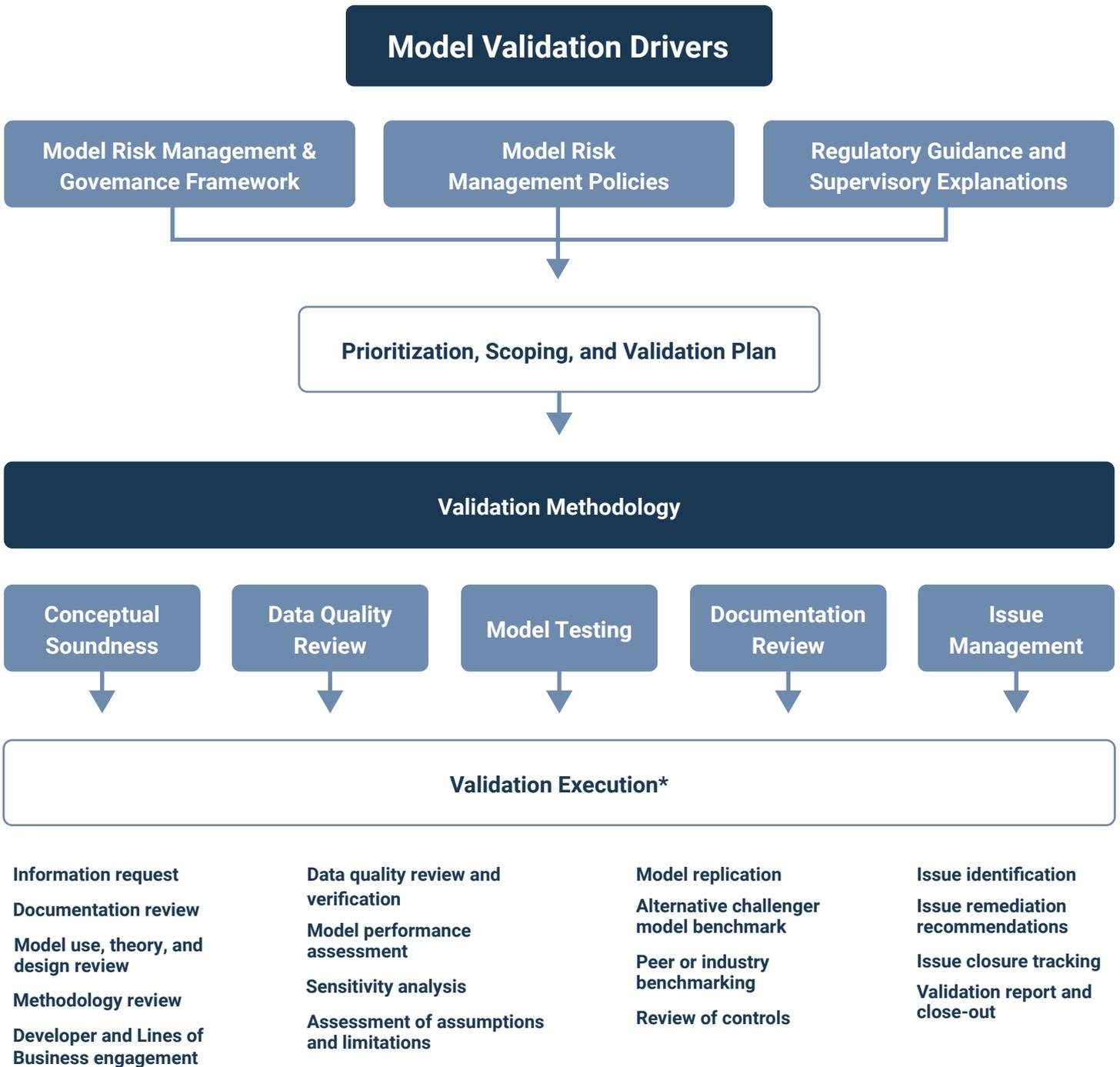
The AI Services team worked independently through the five main stages of the validation engagement: project planning, documentation and methodology review, model performance, testing and analysis, and preparation of the final model validation report and workpapers.



Main stages of the validation engagement



Supported by a team of world-class data scientists, model developers, and validators, DataRobot’s AI Services team delivered the independent validation that the fintech needed, complete with a Model Validation Report that describes how a model works in detail, and what was done to effectively challenge that model’s development during the validation process. The exhibit below presents a high-level overview of how AI Services approaches a validation engagement with five main stages.



\*Validation activities may vary by model, validation type, and scope

After the engagement was complete, the Head of Data Science was impressed, and they plan to partner with DataRobot's AI Services on a yearly basis for their model validation needs. This allows the Company to continue using the best and most accurate and cutting edge machine learning models to give them the advantage they need to compete in a competitive market, but also the confidence that their business process is aligned with all of the required regulations.

As machine learning continues to transform the banking and fintech industries – and as regulators get ever-more stringent with their standards – companies will depend on the type of data science expertise model validation that DataRobot's AI Services provides in order to transform into AI-driven enterprises.



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— Head of Data Science

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