

Deloitte Banking Alert

October 2022

The Bank of England and Financial Conduct Authority surveyed on the state of machine learning in UK financial services

The Bank of England and Financial Conduct Authority published a [report](#) this month discussing the findings of their second survey into the state of machine learning across UK financial services. The survey targeted firms from the following sectors: banking, insurance, non-bank lending, investment and capital markets and financial market infrastructures.

This survey builds upon the 2019 survey and is an opportunity for regulatory authorities to **monitor the state of ML** deployment, ensure an understanding of the **use cases, benefits, and risks**.

What's the state of ML adoption and use?

The **number** of ML applications **is increasing** with 72% of survey respondents reporting usage or development of ML applications. The ML adoption rate increased compared to 2019 and it's expected to **further increase** according to the respondents' beliefs.

Out of existing ML applications reported, 79% are in an **advanced deployment** state, 65% are deployed across a considerable share of the business areas and 14% being **critical for business**. Compared to the 2019 survey, significantly less projects are in pre-deployment stages, suggesting that applications are more mature and embedded in the business.

Customer engagement and **risk management** continue to be the areas with the most applications followed by "miscellaneous" areas such as human resources and legal departments.

Firms are approaching **ML strategically**: 79% of the surveyed entities had in place some form of **strategy for development, deployment monitoring and use of the applications**. The majority of respondents tends to employ existing strategies which were adapted to support ML: 38% of the respondents have a model risk management strategy that includes ML and 25% include ML in their data, invocation or technology strategy. As for the operationalization of the strategies, 29% of the respondents have

dedicated ML teams which are responsible for developing and deploying ML applications while sometimes being responsible for monitoring ML models as well.

What are the perceived benefits, risks, and constraints?

The main **benefits** reportedly consist of:

- **enhanced data and analytics:** via the employment of machine learning techniques, large quantities of structured, unstructured, and semi-structured data can be processed in order to extract patterns and insights
- **increased operational efficiency:** machine learning can help optimize workflows and automate tasks that are traditionally time consuming for employees
- **improved combating of fraud and AML:** models are capable of detecting anomalous behavior or capture patterns that characterize fraudulent behavior
- **increased revenues:** by automating tasks, aiding employees, and optimizing the marketing process
- **enhanced risk management and controls:** machine learning risk estimation methods tend to have better accuracy than their traditional counterparts

The respondents described the **risks** of adopting ML in its current state as “low to medium”.

The main risks outlined by respondents were **biases** in the data, algorithms and outcome (52%), **data quality** and structure (43%) and **lack of explainability** within the model itself and the outcome (34%).

The general consensus between the respondent firms is that **risks** can be **mitigated** by **effective governance and clear lines of accountability**.

As in 2019, **legacy systems** remain the biggest **constraint** when it comes to deployment of ML systems, followed by difficulty integrating ML into business processes, ML not being a high priority and **insufficient talent/skills**. **Regulation** was also perceived as a constraint, be it directly or from a **lack of clarity**; 30% of respondents considered regulation to be a small constraint while 5% found it to be a large constraint.

What is the general sentiment towards ML?

Respondents were **optimistic** about ML, expecting the **benefits** of adopting this technology **to increase** in the next three years, whilst expecting the risks to remain constant or decrease.

The main **risks to consumers** are expected to **decrease** in the next three years, with the risks decreasing the most being related to model quality: “weak model implementation” and talent: “skills base and culture”.

How can we help?

Deloitte is committed to supporting you in managing your risk with success. Therefore, our team can help you reap all the benefits of the machine learning approach while mitigating possible risks that may arise.

Deloitte can help you:

- Identify areas where ML models can bring benefits
- Employ ML in your modelling framework
- Identify and mitigate the risks of ML models
- Implement explainability frameworks for ML models
- Implement ML validation frameworks

For further questions regarding the aspects mentioned in this alert, please do not hesitate to contact us.



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