Thought Networks

EXECUTIVE EXCHANGE

Expert insights on surveillance in the age of AI

The future of market integrity and surveillance

ROUNDTABLE 4

'An increasingly pervasive use of AI in the financial system is commonly associated with a number of potential concerns. Some of the main risks that AI entails in the context of the securities markets are...explainability, concentration, interconnectedness and systemic risk, algorithmic bias, operational risk, and data quality and model risk. Most of these risks are not inherent to models or algorithms branded as AI. However, they can be amplified when using AI, as AI systems typically operate at greater scale, complexity, and automation than traditional statistical tools."

ARTIFICIAL INTELLIGENCE IN EU SECURITIES MARKETS, EUROPEAN SECURITIES AND MARKETS AUTHORITY, FEBRUARY 2023

Invest in AI or do the basics better? The benefit of introducing AI and machine learning (ML) technologies into surveillance programmes needs to be weighed, with purpose put at the heart of adoption decisions. These benefits are in theory sizeable: AI can perform the first level of surveillance, collating and synthesising data across systems and driving consistency in investigations, as well as evolving quickly to detect new patterns of behaviour.

There is a case for continuing with established technologies and focusing on improving the fundamentals of a surveillance programme, and firms recognise that investing in new technologies and getting the basics right are both required in balance. Whilst AI can enable a firm to interrogate data more effectively and to join systems together, firms first need to concentrate on enhancing the basics of alert investigation, including making reliable dispositions. In practice, a trade surveillance analyst's role is administratively complex, often operating across multiple different systems in order to extract and verify relevant information, and there are gains to be made regardless of AI adoption.

Three key impacts of AI on surveillance

HYBRID SURVEILLANCE MODELS

Market leaders consider that AI and rules-based models will be complementary over the next five years and may ultimately blend into a hybrid trade surveillance solution, with AI and ML technologies capable of identifying new types of anomaly that are then used to enhance rules-based models.

MULTI-LINGUAL SURVEILLANCE

Firms note that there has been a large and rapidly evolving benefit from AI-enhanced transcription services, particularly regarding the surveillance of non-English language communications, generally held to be a critical challenge to effective communications surveillance.

CHANGING RESOURCES AND TEAM DYNAMICS

Second and third lines of defence staff need to upskill at the same pace as the first line. The surveillance skillset will shift as models become more sophisticated and false positives reduce. Large offshore teams, a cost for firms that has been naturally increasing as offshore countries become higher cost locations, will over time be replaced by smaller, but more technical, teams that manage and recalibrate models, and are adept at identifying changing market abuse behaviours.

Focusing on vendors:

- Although the adoption of machine learning in surveillance systems has improved operating efficiency, firms have noted that vendors can over-estimate the potential for reducing false positives, with some vendors suggesting reductions as high as 70-80%.
- Given the nuances in how different markets operate, and the impact this has on modelling market abuse behaviours and obtaining data, firms acknowledge that there may not be a single outstanding vendor solution that provides for all surveillance needs. In practice, firms may need to use multiple vendor solutions in order to get the best functionality for different markets, and this risks further fracturing a firm's surveillance operations.
- There is a perception from some market participants, driven in part by the accelerating pace of technological development, that vendor solutions have shortening shelf lives, and that there are often differences between what is offered at RfP (the request for proposal stage), POC (proof of concept) and implementation. This is often a consequence of using synthetic or fictitious data in a testing environment, generating different outcomes once the model or technology is used with live production data. Whilst firms acknowledge that their due diligence processes should be robust enough to identify these risks, it is feasible that third party management risk assessments may approve a solution that does not fit the firm's needs post-implementation.
- Historic vendor failure is driving some market scepticism about future adoption. Advocating for a particular surveillance model requires both financial outlay and political capital, which can result in heads of surveillance taking a cautionary stance over the prospective use of less established technologies.

Reducing false positives, increasing regulatory scrutiny?

A potential unintended consequence of reducing false positives is the potential scrutiny it may put a firm under, as a result of a reduction in overall alert volumes. Some firms have observed an increase in the FCA querying low spoofing and front running alert volumes as a consequence of its recent thematic review. Firms are keen to emphasise that alert volumes is an unhelpful indicator of the robustness of a firm's surveillance programme; a better metric is one that measures alert optimisation, for example the level of investigation that went into an alert.

Braving conversations about data ingestion gaps

Regulators continue to focus attention on data completeness and data ingestion gaps in surveillance models. Firms welcome dialogue on the realities of closing data ingestion gaps, emphasising that late loads and re-runs of data feeds are an inevitable part of surveillance processes and prevent firms from surveilling 100% of their markets 100% of the time. These data reliances are embedded in surveillance programmes and need to be an honest and transparent part of a firm's risk appetite, whilst also balancing the regulators' expectations.