

Checklist

5 reasons why bank compliance departments benefit from traceability when using machine learning in their decision-making processes

Intelligent compliance software is an essential tool for helping banks to efficiently and accurately comply with regulatory requirements. The traceability of machine learning in decision-making processes is particularly important in this respect.

Compliance presents banks with a particular challenge, and one that can no longer be managed using conventional methods. In the last decade alone, the number of new laws, regulations and amendments has sky-rocketed, matched by soaring numbers of criminal activities and financial transactions. This growing complexity makes it increasingly difficult for compliance departments to detect critical cases and take preventive action. On top of this, banks are struggling with a shortage of skilled staff and increasing cost pressures. Yet if their internal control mechanisms fall short, they face the threat of embarrassing sanctions and fines.

ANALYZE VAST AMOUNTS OF DATA, UNCOVER SUSPICIOUS PATTERNS AT AN EARLY STAGE

The answer to this dilemma lies in compliance software that intelligently combines big data analysis, automation and machine learning. This makes it easier for banks to

analyze vast amounts of data with greater efficiency, uncover suspicious patterns and identify potential risks at an early stage. This reduces time and effort, increases efficiency and cuts costs. Machine learning plays a key role in this process. It is still the banks' experts who set out the compliance criteria in the form of business rules, then the software examines the huge data volumes. But the special feature of machine learning is that it is able to learn from experience and come up with independent solutions. This is the only way to flag up unusual transactions in the mass of data in order to identify cases of money laundering, market abuse, fraud or terrorist financing.

EXPLAINABLE MACHINE LEARNING DECISIONS IN COMPLIANCE

Machine learning is a complex and dynamic process that uses intelligent algorithms and self-learning solutions as part of its automatic and ongoing development. It is this complexity that makes it difficult to provide a transparent, explainable overview of how machine learning is used in decision-making. But there are five key reasons why decisions based on machine learning have to be traceable for the purposes of bank compliance.

SUPERVISORY AND REGULATORY

AUTHORITIES: NO ACCEPTANCE OF BLACK BOX DECISIONS



Germany's Federal Financial Supervisory Authority (BaFin) clearly stipulates that machine learning models in the financial sector must be explainable. This is set out in the 2018 BaFin report "Big data meets artificial intelligence": It is the responsibility of supervised firms to guarantee the explainability/traceability of BDAI*-based decisions. Supervisory and regulatory authorities will not accept any models presented as an unexplainable black box. In addition, a better understanding of models provides an opportunity to improve the analysis process – allowing, for instance, the responsible units in the supervised firm to identify overfitting and data bias.

*Big Data Artificial Intelligence



TRUST AND TRANSPARENCY WITHIN THE COMPANY

It is also important to build acceptance of machine learning among key stakeholders in the company, including specialists and managers in Compliance, IT and other relevant departments, the Management Board and Supervisory Board. All too often they have their doubts and are very sceptical of AI, which they think of as an impenetrable black box. Machine learning processes need to be turned into a white box that can also be explained to third parties. Everyone involved needs to understand the specific rules that govern the processes and how certain decisions are made. This allows compliance managers to create the transparency that is needed to gain the trust of all stakeholders in the company and encourage them to adopt behaviours that meet compliance requirements.



CONTINUITY IN DETECTING ABNORMALITIES

Improving the traceability of machine learning in decision-making processes is also an opportunity to continuously enhance the quality of the analysis process. Automated results based on self-learning algorithms have to be monitored to ensure the correctness of decision-making parameters, detect abnormalities and adjust the system as required. Finally, changing parameters or statistical problems that emerge over time can lead to certain transactions being wrongly classified as money laundering, fraud or market abuse. Traceability makes it possible to identify the reasons for an incorrect hit so that the system can be adjusted and improved accordingly. There are two important factors in this respect: first, global traceability, which shows how the overall model and rules work; and secondly local traceability, which explains how an individual result was achieved.



BETTER CUSTOMER COMMUNICATION

Traceability is also essential when communicating with the customers involved. It provides relationship managers with a solid basis for explaining to customers why a certain transaction has been classified as money laundering, market abuse, terrorist financing or fraud. When the system produces a hit, relationship managers need to be able to use the decisioning parameters to check whether the hit is justified or irrelevant. They need to understand how the software evaluated this transaction and which specific features combined to produce this result. This allows them to give customers a precise explanation of why the decision was made.



LOWER COSTS, HIGHER PRODUCTIVITY

Traceability also helps to cut costs because it leads to better-quality results when checking compliance cases. In this way, it ensures ongoing quality improvement and greater accuracy. It significantly reduces the number of unnecessary clarifications as a result of false positives, which involve time-consuming manual checks. This relieves relationship managers of large numbers of “pointless” hits, allowing them to concentrate on more important cases. So the explainability of machine learning decision-making cuts cost by making it possible to optimize the system in an efficient way.

CONCLUSION

The traceability of machine learning in decision-making processes is a crucial factor in bank compliance. It is the only way to effectively comply with regulatory requirements and create trust and transparency within the company. Explainability is not only important to ensure the ongoing monitoring and improvement of the system, but it also provides an essential foundation for communicating with customers who are affected by the decision. It also

helps to cut costs and increase efficiency. That’s why, when selecting a software provider, banks should ensure the program meets all the requirements relating to traceability. Only then can bank compliance departments unlock the full potential of machine learning software.