**Reassessment of Alipay: Model vs. Non-Model**

**Introduction**

This document provides a reassessment of the Alipay fraud detection system to determine whether it should be classified as a model or a non-model. Based on the evaluation criteria and vendor communication, the Alipay fraud detection system is categorized as a **non-model**, with supporting rationale outlined below.

**Definition of a Model vs. Non-Model**

A **model** typically refers to a system that employs statistical, machine learning, or AI-based algorithms to generate predictive or probabilistic outcomes based on input data. Models generally involve data transformations, probability scoring, statistical weighting, or complex feature engineering to arrive at a decision.

A **non-model** system, in contrast, operates based on predefined rules, deterministic logic, or simple matching processes without employing statistical learning, data-driven optimization, or predictive analytics.

**Rationale for Classifying Alipay Fraud Detection System as a Non-Model**

1. **Rule-Based System Without Predictive Analytics**
   * The Alipay fraud detection system functions using **predefined risk rules** rather than statistical modeling or machine learning.
   * Transactions are evaluated against **fixed fraud detection rules and thresholds** rather than dynamically calculated risk probabilities.
   * The system **does not generate risk scores based on historical fraud patterns or probability-based assessments**.
2. **Deterministic Logic Instead of Machine Learning**
   * The fraud detection process follows **explicitly defined rules and thresholds** to assess transaction risk.
   * The decision-making logic does not involve statistical modeling techniques such as **regression, decision trees, or neural networks**.
   * Transactions are either **approved, flagged for manual review, or declined** based on rule-based criteria, rather than probability-driven classification.
3. **Lack of Model Components Defined in SR 11-7**
   * Per **SR 11-7**, a model consists of:
     1. **Information input component** (assumptions, data inputs)
     2. **Processing component** (statistical/economic/mathematical theories)
     3. **Reporting component** (quantitative estimates for decision-making)
   * The Alipay system does not apply **statistical, financial, or mathematical techniques** to process input data into probabilistic outcomes.
   * The system lacks a **processing component** that transforms data into quantitative fraud risk estimates.
4. **No Model Training or Optimization**
   * Predictive models require **training, calibration, and ongoing performance monitoring** to improve accuracy.
   * The Alipay fraud detection system relies on **static fraud detection rules** that are manually configured and updated by fraud experts.
   * No **machine learning algorithms** are used to adjust fraud detection thresholds based on transaction patterns over time.
5. **Absence of Back-Testing and Forecasting**
   * Model-based fraud detection systems require **back-testing** to evaluate performance and predictive accuracy.
   * The Alipay system does not produce **forward-looking fraud risk forecasts** but instead applies **fixed logic to assess current transactions**.
   * Since the system does not involve probability estimations or scoring methodologies, back-testing is not applicable.
6. **Final Classification Decision**
   * Based on reassessment and vendor communication, the Alipay fraud detection system is **assessed as a non-model**.
   * The vendor has communicated that this is a **rule-based system that does not involve the calculation of risk scores through quantitative techniques**.
   * The focus is on **expert-defined rules to detect suspicious transactions and flag them for manual review** rather than on statistical modeling or predictive analytics.

**Conclusion**

The Alipay fraud detection system has been reassessed and **classified as a non-model** because it functions as a **rule-based fraud prevention tool** rather than a statistical or machine learning model. It **does not involve predictive analytics, does not generate risk probabilities, and does not learn from historical data**. The system **determines transaction risk using fixed logic** rather than adaptive modeling, confirming its non-model classification.