



SAS® Fraud Network Analysis

Enhanced fraud detection and prevention, greater operational efficiency and a lower total cost of ownership

Overview

Organized fraud is a growing problem for banks, in large part because it is so hard to detect. Part of the reason for this is that the fraudsters act much like legitimate customers. Alternative banking channels and increasingly sophisticated fraud techniques have also contributed to the problem.

To detect fraudulent activity, many banks use transaction monitoring systems, which work very well for individual real-time, point-of-sale fraud. However, a different approach is needed for monitoring customer behavior across multiple accounts and systems in order to identify those that may appear normal, yet operate “below the radar” – such as sleeper accounts that suddenly bust out, leaving large losses in their wake.

Unfortunately, few banks have a good understanding of customer behavior across multiple accounts and channels. Often this is due to the lack of analytical tools that could be used to analyze customer data to spot trends and suspicious behavior.

The current economic climate has most banks trying to keep costs down and get by on fewer resources. Unfortunately the manual processes currently used to look for fraudulent activity are inefficient and waste valuable time and resources – something banks today simply can’t afford. **SAS Fraud Network Analysis** is the answer.



Challenges

- **Evolving fraud trends.** Increasingly sophisticated criminal tactics and the proliferation of alternative banking channels make fraud detection and prevention a constantly moving target.
- **Growing complexity.** Increased globalization and growth through mergers and acquisitions make it harder to monitor multiple portfolios and business lines effectively.
- **System limitations.** Current systems don’t support robust analytical modeling, and there’s no intuitive interface to navigate customer relationships.
- **Data management issues.** Siloed business units and geographically dispersed customers make it hard to access the right information in the right format and cleanse it without jeopardizing the important anomalies that can prove to be “golden nuggets.”
- **Impact on risk profile.** First-party fraud is often hidden within credit loss, which often leads to inaccurate credit-loss reporting and misrepresentation of actual fraud losses.



■ The SAS® Approach

SAS Fraud Network Analysis is an end-to-end solution for detecting and preventing organized and first-party fraud. The solution includes:

- The power and scalability to handle large volumes of data.
- A category-specific workflow.
- Rapid model development and deployment capabilities, and the ability to update and refresh models and business rules as needed.
- Content management capabilities.
- Advanced analytics, including text analytics, data mining and link analysis.
- A network visualization interface.
- Integration with an optional case management system.

■ The SAS® Difference

Only SAS provides better fraud detection and greater operational efficiency with:

- **A hybrid approach** that combines rules, anomaly detection, predictive models and network analytics.
- **Text analytics** for analyzing unstructured data (e.g., call center or social media conversations).
- **Social network analysis** for exposing organized fraud rings that might otherwise take years to identify.
- **Banking-specific data model, fraud engine**, prepackaged heuristic rules, anomaly detection and predictive models to get you up and running quickly.

How SAS® Can Help

As part of the SAS Enterprise Financial Crimes Framework for Banking, SAS Fraud Network Analysis provides enhanced fraud detection and improved operational efficiency, while decreasing the total cost of ownership.

SAS Fraud Network Analysis takes a unique, hybrid approach, using multiple techniques – automated business rules, predictive modeling, text mining, database searches, exception reporting, network link analysis, etc. – to detect and prevent fraud at the individual transaction, account, customer and/or network level. The solution gives you the distinctive ability to uncover subtle or hidden relationships among entities that alone may seem innocuous, but when viewed at a network dimension may indicate first-party, bust-out fraud or associate collusion.

SAS Fraud Network Analysis scores and prioritizes alerts based on severity, then routes them to investigation units, where investigators can perform more in-depth reviews to determine if the transaction or any associated historical transactions are fraudulent.

SAS gives you the flexibility to configure the system to meet your specific needs, as well as update models and adapt the system to address changes in fraud trends whenever necessary.

Benefits

Detect More Fraudulent Activity and Decrease Losses Due to Fraud

SAS Fraud Network Analysis lets you detect more fraudulent activity than ever before. With the solution, you can:

- **Process all data (not just a sample)** through business rules and analytical models in near-real time or in batch so you can spot more suspicious activity with greater accuracy.
- **Uncover previously unknown fraud schemes** using customized anomaly detection methods.
- **Detect repeat offenders** and more accurately score incoming transactions by searching databases of known fraudsters and capturing all fraud outcomes, referrals and suspects within the system for reuse.
- **Spot linked entities and crime rings** – which can help stem larger losses – using a unique network visualization interface.
- **Overcome poor data quality issues** associated with imperfect matching and highly linked entities.
- **Uncover insider or collusive fraud** by integrating staff data and audit records that show who handled which transactions.

Reduce False Positives While Increasing Investigator Efficiency

With SAS, you can actually decrease the number of false positives using a sophisticated fraud scoring engine. This improves the efficiency of investigators by reducing the amount of time they spend investigating false-positive alerts.

- **Prioritize events before presenting to investigators** by applying risk- and value-based scoring models.
- **Enable investigators to work many times the number of cases** and focus on higher-value networks, which generate a higher ROI.

Gain a Consolidated View of Fraud Risk

SAS Fraud Network Analysis gives you a holistic view of fraud risk, enabling you to:

- **Identify cross-brand/product fraud** by seeing customer accounts and transactions for all lines of business.
- **Stay on top of changes in fraud trends** by improving models on an ongoing basis and continuously adapting the system.
- **Better understand new fraud threats and prevent substantial losses early** using social network diagrams and sophisticated data mining capabilities.

Gain Greater Competitive Advantage

SAS Fraud Network Analysis can also help you improve your competitive position by enabling you to:

- **Provide legitimate customers with a better customer experience** through fewer false positives, which leads to greater customer satisfaction.
- **Discourage fraudsters from targeting your organization** by employing more diligent and effective fraud detection methods.
- **Satisfy greater regulatory demands** with enhanced fraud management.

Capabilities

Fraud Data Management

- Consolidate historical data from both internal and external sources for fraud analysis and investigation.
- Reduce or eliminate data inconsistencies or redundancies with automated, built-in data quality tools.
- Integrate the system seamlessly with third-party fraud applications.

Rule and Analytic Model Management

- Logically manage rules, models and alerts for investigators.
- Create and manage business rules, analytical models and known fraudster lists.
- Maintain simple or complex routing and suppression rules.

Detection and Alert Generation

- Score transactions in real time with an online scoring engine that uses a combination of business rules, anomaly detection and advanced analytic techniques.
- Calculate the propensity for fraud at account opening, then rescore accounts with each transaction as new data is captured.
- Go beyond fraud detection by deploying at account opening to prevent fraudsters from opening accounts in the first place.

Alert Management

- Assemble alerts from multiple monitoring systems, associate them with common accounts and give investigators a holistic perspective on the risk of a particular account or individual.
- Calculate risk scores based on the activity's specific characteristics, including transparent reason codes.
- Prioritize alerts and route potentially fraudulent transactions to appropriate team members.
- Automatically assign work to investigators based on user-set rules and requirements.

Social Network Analysis

- Identify linkages among seemingly unrelated transactions and uncover

unknown relationships with a unique network visualization interface.

- Go beyond transaction and account views to analyze related activities and relationships at a network dimension.
- Automatically identify suspicious networked behavior in the data.
- Gain fast access to full details on transactions, all related parties and networks.
- Merge or delete network entities, and add annotations (text and images) to specific entities in a network.

Optional, Integrated Case Management

- Systematically facilitate investigations using a configurable workflow.
- Capture and display all information pertinent to a case, including interview notes and evidence needed for criminal or civil prosecution, restitution and collections.

- Assess your overall fraud exposure, including losses due to fraud, as well as fraud detected or prevented.
- Completely assess investigative workloads, investigator efficiency and ROI, and use that information to build a business case for expanding fraud investigation resources.

Auditability

- Run reports and produce a complete audit trail for all alerts and investigations, in accordance with compliance mandates.
- Show network evolutions and drill down into reports for more detail.

About SAS

SAS is the leader in business analytics software and services, and the largest independent vendor in the business intelligence market. Through innovative solutions, SAS helps customers at more than 55,000 sites improve performance and deliver value by making better decisions faster. Since 1976 SAS has been giving customers around the world THE POWER TO KNOW® **sas.com**