

Next-Generation Fraud Management Solutions



Transforming Fraud Detection and Prevention in Banks and Capital Market Firms

In the digital age, financial crime against banks and other financial services institutions is accelerating rapidly. Fraud prevention now represents one of the biggest areas of concern for the financial services industry, as the typical organization loses five percent of revenues to fraud each year. ¹

In 2015, fraud losses incurred by banks and merchants on all credit, debit, and prepaid general-purpose and private-label payment cards issued worldwide reached \$16.31 billion as global card volume totaled \$28.844 trillion. In other words, for every \$100 in transaction volume, 5.65¢ was fraudulent. Through 2020, card fraud worldwide is expected to increase to \$35.54 billion.²

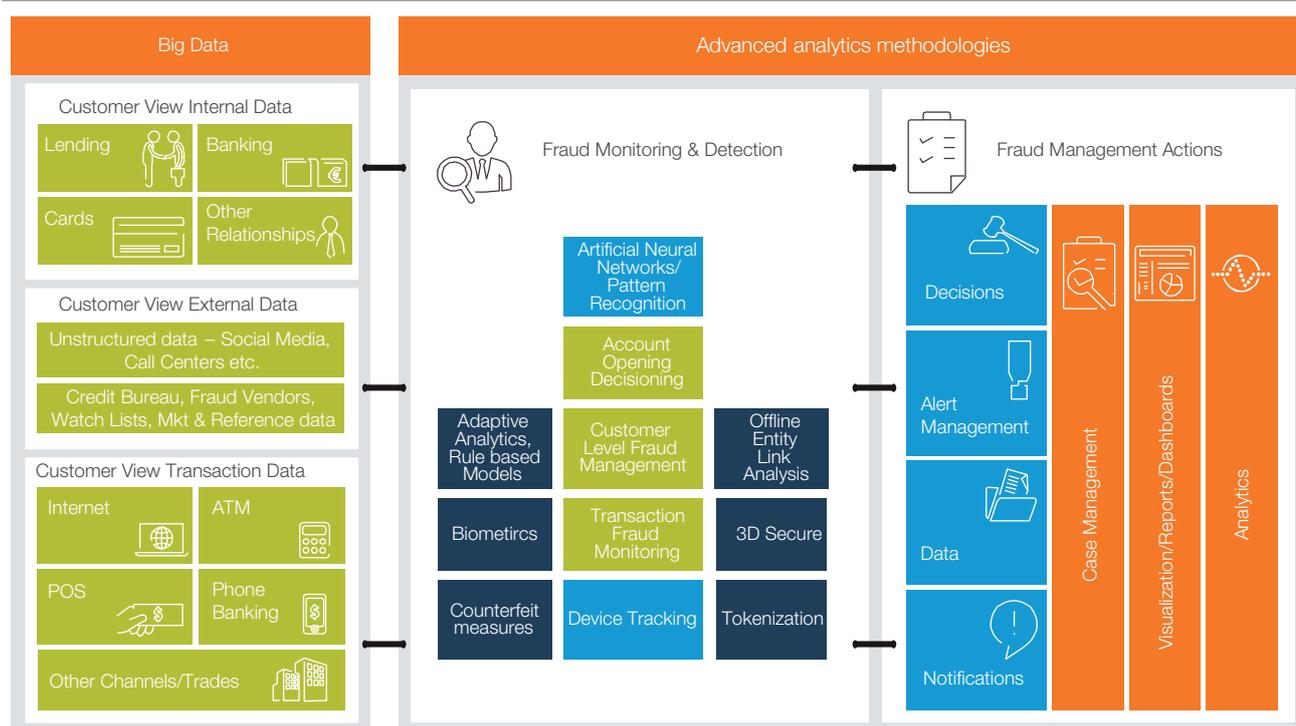
To reduce these losses banks and capital market firms must improve their defenses, which means upgrading disparate transaction systems and piecemeal fraud detection solutions. The increasing sophistication of the perpetrators of fraud is forcing banks to carefully balance fraud identification and loss prevention against the quality of the customer-service experience.

The right fraud solution could deliver huge benefits across the business — driving down costs and risks, improving customer satisfaction and enabling innovation. To achieve this, the new solution must be able to:

- **Enhance information credibility** by integrating disparate data sources (including unstructured text such as notes fields and call center logs).
- **Detect fraud faster with real-time integration** to authorization systems and on-demand scoring of all purchases, payments and non-monetary transactions.
- **Improve behavior monitoring of individuals** to incrementally detect fraud and reduce false positives by using data across all of a customer's accounts and transactions.
- **Uncover hidden relationships**, detect subtle patterns of behavior, prioritize suspicious cases and predict future risks using advanced analytics including complex rule-writing capabilities.

Capgemini is helping Banks and Capital Market firms globally transform their fraud management capabilities, delivering lower costs and greater protection for customers and their reputations.

Exhibit 1: Supports decision making by converting data into actionable insights



¹ [ACFE 2016 Report to the Nations](#).

² [The Nilson report, the Global Cards Report 2015](#)

Emerging Trends In Fraud Detection and Management

Capgemini Next-Generation Fraud Management Solutions Functionality

We use a hybrid model of advanced analytics techniques and a rule-based, holistic approach, encompassing the full range of fraud-detection techniques. This unique approach to analytics includes business rules, anomaly detection, predictive modeling, text mining and social network analysis. The model enables:

- Near-real-time fraud detection and on-demand scoring.
- Real-time detection for transaction fraud including cards and online banking.
- Proactive monitoring of consumer card activity, and control/set limits on a per usage, country or regional basis.
- Detection of suspicious devices, revealing hidden relationships and suspicious associations among customers, accounts or other entities.

We integrate disparate data sources to enhance information credibility and provide higher visibility of overall exposure across channels. Included in the framework:

- Better monitoring of the behavior of Individuals to detect fraud incrementally and reduce false positives by using data across all of a customer's accounts and transactions.
- A suite of tools for effective fraud management, including case management and workflow.

To effectively fight fraud, forward-looking financial firms constantly update fraud management systems with new rules, statistical models and acquired knowledge. This process becomes easier and more efficient with centralized systems. Integrated solutions better position firms to analyze operational data and process information more efficiently to comply with evolving regulatory requirements. Firms need to easily access, extract, cleanse, aggregate, load, and manage data for analysis, including integrating external sources such as social networking sites to their internal data. Geographic expansion, acquisitions, and organizational silos make the task of gathering and formatting data from disparate repositories quite complex.

Combining these advanced analytics methodologies on a single platform improves fraud detection and management capabilities:

Out of pattern analysis - Comparing customer activity with peer group behavior, and also with the customer's own past behavior to identify outlying transactions.

Linkage analysis - Identifying other entities associated with known types of fraud, as well as practices used by fraud-linked entities - sometimes using analysis of social networking activity - and developing strategies to counter these practices.

Model development - Creating fraud-scoring tools and detailed statistical analytics to provide quantitative insight into possible fraud activity.

Rule development - Creating and applying rules for basic business activities to spot unusual trends, as well as specialized rules for specific transactions.

Capgemini Solution In Practice: Card Application Fraud

Application fraud can be committed in three ways:

1. Assumed identity-an individual illegally opens accounts in using another person's partially legitimate information.
2. Financial fraud-an individual provides false information about their financial status to acquire credit.
3. Not-received items (NRIs), also called postal intercepts-a card is stolen from the postal service en route to the customer.

Solution Functions

- Applicant risk identified based on attributes and characteristics
- Social link investigation and analysis
- Identity validation and verification via knowledge-based authentication
- Rule-based workflow trigger routes suspicious transactions to staff

Benefits

Rule-based models quantify risk and support strategies based on risk-profiling of customers. Link analysis can identify attempts as organized fraud. Automation reduces time to close fraud cases; eliminates manual interventions; supports regulatory reporting.

Maximize Fraud Detection & Prevention with Capgemini

Capgemini's Next-Generation Fraud Management Solution provides banks and capital market firms with unrivaled, integrated capabilities to detect, prevent and manage fraud and financial crime across all lines of business.

Capgemini experience in delivering fraud solutions cuts across the complete industry value chain; it includes issuers, acquirers, consumers, merchants, and internet. We have capabilities that can help you address all aspects of Financial Crime Management and Compliance:

- Anti Money Laundering (AML)
- KYC (Customer Due Diligence/Enhanced Due Diligence)
- Financial Intelligence Units
- Cyber analytics / cyber security
- Big data and analytics
- Fraud monitoring
- Fraud filtering
- Customer identification, authentication, and risk assessment
- Data privacy

The Capgemini solution delivers powerful, agile fraud-management functionality built upon four components:

- **A fraud diagnostic** that assesses the current state of fraud management and designs a blueprint for the future.
- **Threat assessment** which identifies current and future risks and vulnerabilities.
- **Analytics innovation** to bring advanced analytics available within the Fraud frameworks to bear on issues related to both consumer and fraudster behavior.
- **Optimization of fraud management processes and tools** to develop appropriate customer authentication other anti-fraud measures.

Capgemini combines its deep banking & capital markets experience, business information management expertise with the leading fraud and financial crime analytics capabilities in market leading platforms, to provide a holistic solution for fraud management. We can help you to achieve faster and more effective fraud detection and higher visibility of exposure across channels, leading to:

- **Increased customer retention** through improved customer confidence and a better customer experience.
- **Reduced financial loss** due to fraud through real-time fraud detection using advanced analytics – leading directly to improved financial performance and greater value for shareholders.
- **Protection of brand and reputation** by finding potential fraud faster and more accurately with real-time integration and on-demand scoring.
- **Reduced total cost of ownership** by consolidating disparate systems, enhancing staff productivity and reducing the total cost of fraud activities.

Capgemini's comprehensive, integrated solution maximizes fraud detection and prevention, lowers total cost of ownership and protects your firm's brand and reputation.

Capgemini Solution In Practice: Counterfeit Cards

The creation of counterfeit cards, together with lost/stolen cards, pose the greatest card-fraud threat. Techniques used for creating false and counterfeit cards include skimming information from the magnetic strip and creating a fake card (e.g. stealing information to put on a white card; using a card-number generator).

Solution Functions

- Consumers can proactively monitor card activity; banks can control/set country-based or regional based limits on usage
- Enables device-base authentication; detects suspicious devices
- Detects consumer demographic/ mode of living pattern and tracks usage patterns to detect unusual/ risky behavior
- Payment approval based on transaction characteristics and attributes

Benefits

Consumers can monitor transaction updates in real time, while banks can define usage limits at country or regional level to contain potential losses. Analytics identify and block approval of suspicious transactions.



After implementing a Next-Generation Fraud Management solution from Capgemini, clients have reported increases in detection rates from 50% to 90%, while reducing overall alerts from tens of thousands to less than 100.

Capgemini Solution In Practice: Merchant Collusion

Merchant owners and/or employees who sell merchant-customer card and personal information to fraudsters are a significant source of losses.

Solution Functions

- Enables Merchant Audit Program by using common data shared by MasterCard
- Adaptive analytics; rule-based models enable firms to build workflow triggers based on total return, chargeback and other potentially risky data elements and patterns
- Suspicious transactions routed automatically to case manager

Benefits

Merchant monitoring can help acquirers outpace competitors in soliciting new business. Correlating merchant locations with suspicious/ fraudulent transactions such as return and charge back for any given calendar month.

Our approach ensures that firms can “future proof” their organization against fraud by protecting against known and unknown vulnerabilities, and they have the flexibility and agility to incorporate changes to manage the new threats that may arise.

We have designed our approach to be non-prescriptive, allowing us to take advantage of our clients’ existing investments (whether systems, technology or people, such as data warehouses, analytical teams, case management systems or compliance rules) thereby reducing cost, accelerating change and reducing time to benefits.

The effective partnering between Capgemini and market leading technology platforms helps ensure a bank’s fraud transformation achieves targeted business objectives. We combine our deep financial services knowledge and experience in financial crime management processes with industry-leading SAS® Fraud Framework to suit the individual client’s needs. Capgemini also partners with FICO, the leading provider of fraud technology in North America.

The 20+ accelerators Capgemini has developed to speed implementation of a solution include a series of use cases, a fraud management process model as a reference framework, adaptive fraud analyzer framework, and templates covering the bank’s operating model, enterprise compliance, fraud and error reporting. Next-Generation Fraud Management is a tested and proven solutions framework that Capgemini has used to deliver tangible benefits for banks and capital markets firms across the globe. Our experience includes 15 deployments of leading fraud-technology platforms.

Capgemini Solution In Practice: AML Model for Suspicious Activity

The goal is to reduce the high number/costs of false-positive cases of suspicious money laundering behavior identified in Wealth Management portfolios (account and transaction types).

Solution Functions

- Segmentation of customer population into clusters of records (homogenous within and heterogeneous across)
- Special procedures help normalize and standardize data
- Key significant variable in each cluster; 2-3 important variables chosen based on business logic and sampled
- Model is built using Tuning Elements of interest identified from the samples

Benefits

Good clusters ensure coverage of entire population while drawing samples, achieving the goal of reducing false positive cases to review.

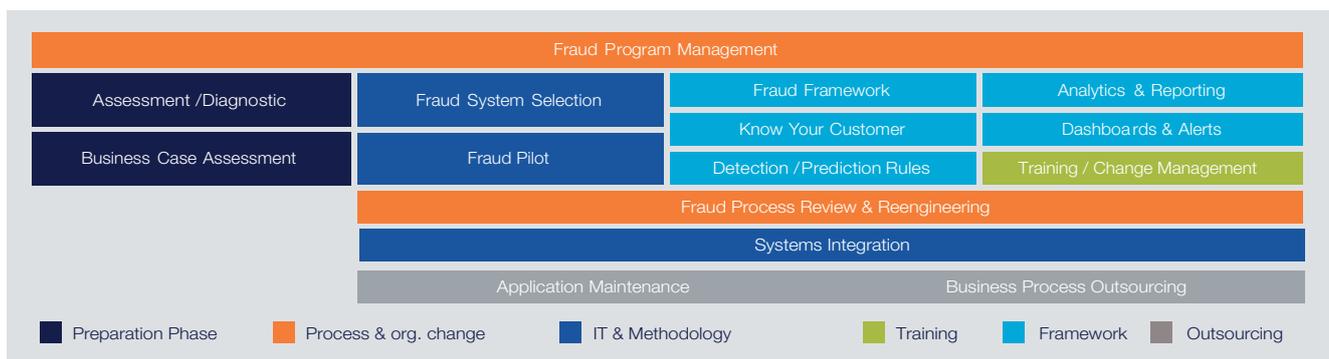


How it Works: A Complete Fraud Prevention Solution

Our approach to fraud prevention provides a full package-implementation service. This includes everything from pre-study to go-live, including program management. It addresses both business and IT demands to create a solution that delivers business outcomes and a healthy return on investment. We recognize that for many banks building new fraud management capabilities could be a multi-year journey. We manage this opportunity in a phased approach to deliver business benefits at each step of the journey.



Exhibit 2: A Complete Fraud Management Solution



Each project starts with an assessment and diagnostic phase that defines, reviews and fixes the project scope. Capgemini leverages its knowledge of banking processes and best practices to conduct the assessment and develop guidelines to adjust models to a client’s specific situation and needs. This includes a gap analysis between the “as is” fraud situation and the “to be” target scenario to investigate the fit of the standard solution and identify any functional or technical pain points which may impact scope. This is followed by an implementation plan to formalize project execution and control.

The business case assessment enables the team to estimate the ROI, which is the ratio of money saved to money spent in preventing fraud. The average ROI across the financial industry for 2012 was 5 euros for every euro spent on fighting fraud.

A pilot is used to validate the financial opportunity, and test and fine tune new fraud detection techniques. During the pilot the fraud management software is installed and key customer- and third-party data are extracted to populate the fraud database. Fraud hypotheses are identified, business rules defined, and cases for investigation are prioritized. The pilot period is an opportunity to enrich the business rules and the models to discover the characteristics of fraud cases.

We implement the program using an agile methodology to accelerate delivery, maximize business value, enhance user satisfaction and minimize project risks. We also look to work collaboratively to ensure progressive knowledge transfer that leaves our clients self-sufficient. We utilize Capgemini proven methodology for Package implementation as the delivery framework for implementing the solution.

Case Management is conducted in the context of an intelligence led security environment aimed at supporting all security and intelligence management (SIM) functions. Capgemini advocates an approach of integration of information on fraud to make it possible to provide an overall picture of vulnerability to fraud, reuse AML and Customer Due Diligence (CDD) data to combat fraud, support trend, threat analysis and research and maintain flexibility to deal with incidents of various types. The scope covers a wide set of alerts, including those for Fraud, AML, CDD, access and screening. The solution supports reaction to incidents, including response management and supporting wider research and threat analysis.

Why Capgemini?

Clients benefit from our experience of over 25 years working on various banking systems and thousands of projects delivered in the banking and capital markets industry. Our experience in various accounts-receivable platforms enables seamless integration with fraud platforms.

Our proven solution has delivered tangible results for many banks and capital market firms across the globe:

- **Helping to achieve highly effective detection rates** with clients reporting increases in detection rates from 50% to 90%, while reducing overall alerts from tens of thousands to under one hundred.
- **Greatly reducing false positives** with up to 90% improvement in false positive rates.
- **Significantly improving investigator efficiency** with investigation time for each referred fraud case being reduced by up to 70%.
- **Driving significant process efficiencies including** reduction in time taken for overall credit approval processes from days to minutes.

Our approach is quite different from that of our competitors, who often approach the problem from a technology perspective. We see this as a business problem that is solved by business solutions supported by technology. Capgemini's business-driven approach ensures the inclusion of subject matter experts across the project lifecycle right from initial phase until the deployment of the solution. Our RightShore® organization leverages more than 500 Fraud / AML analysts supported by about 9600 technology experts from our Insights and Data practice. This helps us optimize our value proposition by bringing together our best talent from the right balance of onshore, nearshore and offshore locations. Once implemented, our solution enhances staff productivity and increases the efficiency of the bank's ongoing fraud management.

Capgemini performed a global roll-out of SAS® Enterprise Fraud Management for credit card transaction fraud management for a major multi-national bank. We steered the first ever deployment of SAS® Enterprise Fraud Management and developed a global version to deliver faster deployment across multiple countries.

Capgemini implemented a fraud reporting solution for a leading financial services company in the UK. It provided a unified view of fraud across various portfolios and faster ad hoc reporting capabilities.



For more information, please contact us banking@capgemini.com
or visit us at www.capgemini.com/fraud-management.



About Capgemini

With more than 190,000 people, Capgemini is present in over 40 countries and celebrates its 50th Anniversary year in 2017. A global leader in consulting, technology and outsourcing services, the Group reported 2016 global revenues of EUR 12.5 billion.

Together with its clients, Capgemini creates and delivers business, technology and digital solutions that fit their needs, enabling them to achieve innovation and competitiveness.

A deeply multicultural organization, Capgemini has developed its own way of working, the Collaborative Business Experience™, and draws on Rightshore®, its worldwide delivery model.

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