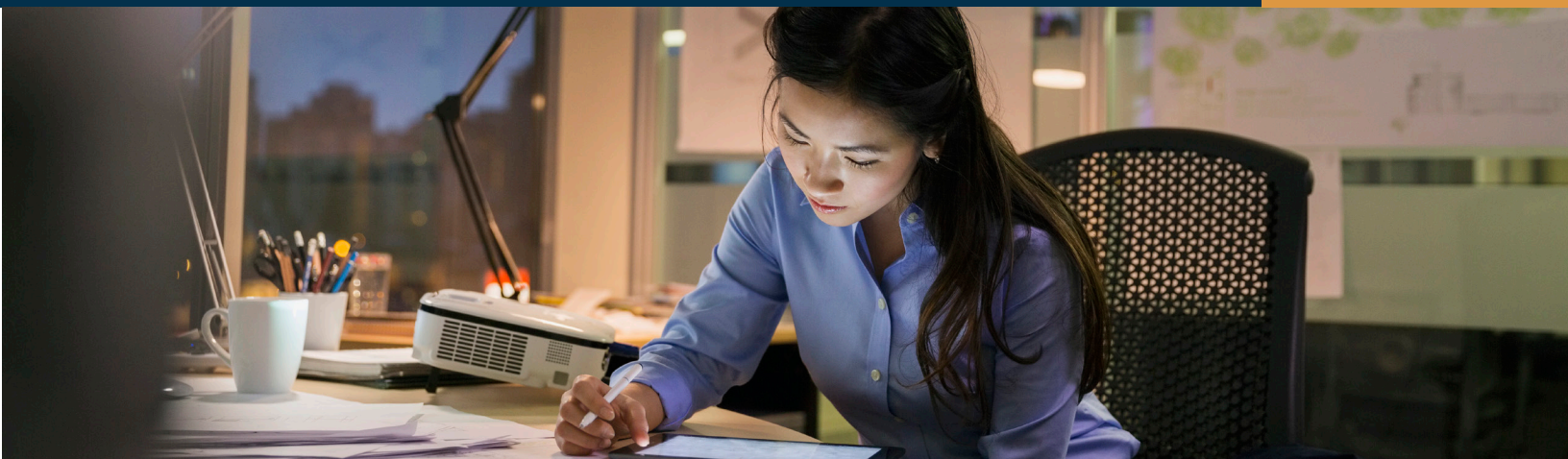# Prevent insurance application fraud to increase profitability

Business Impact

Insurance fraud is one of America's largest crimes – at least $80 billion is stolen each year, and $32 billion is on Property and Casualty insurance alone.

Coalition Against Insurance Fraud

Challenges

- **Disparate data**. Unable to gain insights from the combination of various data sources to see agent associations, trends and anomalies from a deep view of data.

- **Lack of experienced resources**. Internal audit and channel management teams can only look at the performance of so many suspect gamers per month. A full agent or broker review can take several days.

- **Effectively managing alerts and false positives**. With so many false positives, it's hard to know which ones merit further analysis. Inappropriate false positives could cause a good agent or broker to leave the company.

- **Outsmarting the system**. Agents and brokers understand the systems and processes in place extremely well – so they will actively look to cover their tracks.

Insurance products have increasingly become a commodity primarily sold on price, contributing to a highly competitive market in which insurers must be vigilant in reducing costs. Unfortunately, one source of leakage can be found in the agents or brokers themselves, which can affect up to 10 percent of premiums. Not all insurance agents play by the rules; some are gaming the system by misrepresenting or avoiding premiums, opportunistically trying to meet their next quota, or otherwise submitting fraudulent information.

For instance, agents or brokers may:

- Underwrite a high number of new business cases toward the end of a month or quarter to make their target quota, and then quickly cancel them at the start of the next.
- Treat existing customers as new customers at the end of the initial contract.
- Introduce a high percentage of low-risk customers not consistent with peer brokers, suggesting they're altering underwriting risks to reduce initial premiums.

By uncovering this activity, your company can improve its close rate, provide better quotes and correctly apply policies, which will create a better experience for insurance customers.

How SAS® Can Help

In an end-to-end process, SAS automation helps you better identify and review your brokers and agents and enable case management. We do this by combining accurate triage alerts to improve your true positive rate, based on a comprehensive view of your data and analytically derived scores.

- **Gain a holistic view of formerly disparate data sources**. Combine policy, quote, claim and internal audit data, and cleanse and standardize the data. Entity resolution identifies unique entities.
- **Create an alert-generation process** from anomaly detection, predictive modeling and social network analysis that's then fed to alert management. Rank ordered lists of agent-based alerts based on an at-risk agent gaming model score.
- **Apply automated analytic techniques customized to your data**. Anomaly detection, heuristic modeling, rules, outliers and text mining, predictive modeling, unsupervised and supervised learning all make the process more efficient.
- **Social network analysis**. Visualize agent, application and policy activities and unexplained relationships such as where several policies are canceled but linked to a common entity.

- **Machine learning**. Fraud tactics are becoming more sophisticated through reverse-engineering of rules and avoiding triggered alerts. While rules do an excellent job of uncovering known patterns, machine learning can uncover unknown schemes. Neither approach is complete or sufficient on its own; both are needed to make the entire process faster, more accurate and smarter. And machine learning methods improve the system by continuously learning and adjusting.

- **Operationalize analytics**. SAS can help you turn data insights into business value. It's about plugging analytics into the workflow and decision-making process to streamline decisioning, optimize business processes and improve the bottom line. For agent gaming cases, an investigator needs prioritized alerts plus accurate, complete information and intelligent case management to be effective and efficient.

- **Intelligent case management**. On average, 60-70 percent of an investigator's time is spent collecting data about a subject. With intelligent case management to govern the workflow from alert to investigation to resolution, auditors and investigators can work more efficiently. Machine learning guides systems to automatically search and retrieve data, run database queries and collect information without human intervention.

- **Domain expertise**. SAS insurance industry experts know your business. We apply SAS fraud solutions to solve your specific issues and increase your profitability. And your users don't have to be analytics experts to understand and act on the results.

Situation

A major US insurance company was unable to quickly and accurately identify and act on agent gaming issues, including avoiding premiums; misrepresenting lower premiums to improve close rates; manufacturing fictitious policies to meet sales targets; slipping in unneeded or unwanted coverages to pad commissions; and exploiting loopholes or inadequacies in underwriting practices. The company needed to:

- **Quickly collate data**. Manual data gathering from six systems with investigation took 17.5 hours.
- **Reduce false positives**. Invalid alerts sent to investigators resulted in a high number of false positives, with only 4 percent deemed serious enough for investigation.
- **Automate**. Improve entity scoring, analyze all the available data and conduct network analysis to find interesting patterns and anomalies.

Solution

- Improved fraud detection and increased savings through an advanced fraud analytics engine.
- Empowered investigators with a simple, custom user interface designed for special investigative units to surface alerts on questionable policies.
- Eliminated the need for labor-intensive manual collection and review of suspicious applications.

Results

- Millions of dollars in savings due to significant improvements in targeting high-risk agents and trending behaviors.
- Monthly scoring of all agents writing personal auto policies and automated tracking of ongoing agent behavior.
- Routed 40 percent of alerts to internal audit, compared to 4 percent previously.

- Reduced time spent per agent review by 14 hours – a 547 percent efficiency gain.
- Fewer false positives, allowing more time for investigators to pursue cases that have a high probability of fraud.
- Better understanding of new application threats to prevent large losses early using link analysis diagrams.

What if you could …

- Combine all pertinent information from multiple data sources into one holistic view?
- Apply business rules and anomaly detection scenarios across all agents to construct predictive models that increase detection of gaming threats and highlight agents and brokers to direct your focus?
- Increase efficiency by ensuring investigators are working on cases that have a high probability of fraud by improving the ratio of true positives to false positives?
- Use network analysis to identify relationships across agencies and households and develop a dashboard for automated and ongoing agent behavior monitoring?

SAS Facts

- More than 1,500 insurance companies worldwide are SAS customers.
- SAS offers extensive domain expertise and more than four decades of experience working with insurance companies across the globe.
- SAS was named a category leader in the Chartis RiskTech Quadrant® 2017 – Enterprise Fraud Technology Solutions.

Learn more at sas.com/securityintelligence.