Advanced Analytics in the Battle Against Insurance Fraud
Another Line of Defense

Insurance fraud is on the rise. Statistics published in the Netherlands in 2013 by the Verbond Van Verzekeraars suggest that it has increased by 25 percent in the last five years, adding US$167 to the average policy. In the UK, the Insurance Fraud Bureau (IFB) estimates that undetected insurance fraud amounts to $3.24 trillion, adding $77.16 to the cost for each policyholder.

With such figures in mind, many insurers are looking to improve their fraud defenses by reviewing and enhancing their claims and new business processes, and investing in enhanced technologies.

The Challenge

The biggest challenge insurers face is the volume and variety of the fraud itself. Currently, there are three main categories of fraudster. The first category consists of opportunistic individuals who exaggerate their claims to get a better deal or to cover their excesses. The second category consists of deliberate fraudsters (typically either individuals, households or small communities) who are targeting the insurance companies. And the third comprises members of organized gangs who believe insurance companies are easy targets and who are focused on inventing claims or staging accidents in order to make money.

In addition to the breadth and diversity of the groups involved and the frauds perpetrated, insurers face a broad range of other challenges in investigating insurance fraud:

- **Siloed business units.** Disparate legacy solutions in different departments (claims, policy, etc.) and across different types of insurance (motor, property, etc.) make it almost impossible to share information and spot suspicious activity across product lines.

- **Poor data quality.** Legacy systems and an inability to integrate data from suppliers and third parties mean data is often incomplete and unreliable.

- **Changing tactics.** To avoid detection, fraudsters constantly find ways around rules and thresholds and change elements of their identities, making it difficult to match new policies or claims to previously known fraudsters.

- **Limited view.** Current data views rarely produce a view beyond a single customer, so it’s difficult to get a full picture of a customer or a claim and to spot high-risk relationships.

- **Manual analysis.** Up to 75 percent of claims data is unstructured, and since most systems can’t analyze such data, potential fraudulent activity can be overlooked.

- **False positives.** Existing fraud systems often lack an advanced analytics capability to fine-tune the detection of fraud and are overreliant on outdated, imprecise rules. As a result, they generate a large number of false positives, which then lead to investigation teams spending their time clearing unwarranted alerts, rather than pinpointing and investigating genuine frauds.

Coupled with the above, a recent Europe-wide online survey of insurers carried out by SAS in 2014 revealed many insurers were behind the curve in terms of their maturity levels for fighting fraud. The research found that 19 percent of insurers surveyed do not currently make use of technology to automate fraud detection.
Many insurers use systems focused on monitoring transactions, which may work well for individual claims fraud. However, a different approach is needed for monitoring customer behavior across multiple claims and lines of business in order to identify customers that may appear normal on the surface yet operate "below the radar."

The latest breed of advanced analytics solutions provides an alternative approach to detection. They typically start by extracting the data that exists across the insurance company and then cleaning it if necessary. They can then effectively connect the data to provide a holistic view across the organization.

A hybrid analytics approach can then be applied, incorporating everything from third-party reference data, business rules, predictive models and anomaly detection models to social network and text analysis. These techniques help identify potentially suspicious cases that can be presented back via a user-friendly interface for the business to review and accept into investigation or push back into the existing process.

The Benefits of a Hybrid Analytics Approach

There are two key benefits of this analytics-based approach to fraud detection. The first is finding more fraud. The second is reducing the false positive rate. In terms of finding more fraud, one of SAS’ clients suggested they had payback on the solution in less than five months.
Furthermore, in the recent SAS survey, of those insurers using business analytics, 57 percent had seen the amount of fraud they detected year-on-year increase by more than 4 percent. In contrast, of those insurers with no automated solution or those using only business rules, only 16 percent had seen a similar increase.

Analytics can be deployed without disrupting the existing process for handling claims. This is critical because most insurance companies are process-driven and rely on tried and tested procedures.

Looking to the Future

One of the key trends we are seeing with insurance companies is a move from a reactive approach to fraud detection to a more preventative approach, with insurers taking some of the lessons derived from detecting fraud in the claims process and applying them to the new business area. For many countries, this approach is still in its infancy, with the UK leading the way. Within the new business stream, insurers can either choose to reject the new business case or tag it so that when a new claim comes in, it goes straight into investigation.

The analytics-based approach to fraud is set to grow in the immediate future. We are now seeing encouraging uptake rates for automated fraud-detection systems.

The SAS survey revealed that, for combating organized fraud, more than a quarter of respondents confirmed they already have a system in place or are in the process of implementing such a solution. A third of respondents do not currently have a solution.

Insurance companies are focused on improving profitability. To this end, they have cut staff numbers, introduced lower-cost distribution and enhanced internal processes in recent years.

Fraud detection is one key area where there is still considerable potential to improve the bottom line. On the ground, we are seeing more and more countries, not just in the mature markets of the Western world but also in countries such as China and Russia, using analytics as part of their defense against fraud.

The larger insurers have been first to take these solutions on, but we are now also seeing growing interest from medium-sized and smaller insurance companies. They will see significant benefits as a result.

After all, one key finding of the SAS research was that insurers that have invested in fraud detection analytical technologies have seen much larger increases in fraud detected than those that have no such technologies in place or that are just using business-rules engines.

Simply put, investing in a hybrid analytics approach, making use of multiple analytical techniques and combining the results enables an insurer to proactively tackle the problem and to ultimately detect and prevent more fraud.

For more information please visit: sas.com/fraudfinancialcrime.

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