White Paper

The Evolution of Fraud Detection: The Path Ahead for Insurance Carriers

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Insurance

Fraud: A costly problem

It is widely understood in the insurance industry that claims fraud is a significant and costly concern. Insurance fraud totals nearly $80 billion annually, or $950 per family, according to the Coalition Against Insurance Fraud. The National Insurance Crime Bureau estimates fraud is involved in approximately 10 percent of losses, costing policy-holders an estimated $200-$300 a year in added premiums.

The insurance industry, already under pressure of declining net income, has taken on a number of initiatives to identify and reduce fraud. For example, companies have increased adjuster training, ramped up special investigative units, and enhanced back-end review processes with automated search, link analysis and visualization technologies integrated into new third-party databases.

Insurance companies have also increased the public profile of their fraud prevention efforts through public relations, industry trade groups, and partnerships with state bureaus and regulators. These efforts have generated some meaningful results, but a significant amount of fraud still goes undetected. In a 1996 study titled "Insurance Fraud: The Quiet Catastrophe," Conning & Company estimated that P/C insurers detect about 20 percent of their fraud, while life/disability insurers find about 10 percent and health care insurers a mere 1 percent. In fact, many insurers think the problem will get worse as unemployment rises and the economy softens. In its most recent fraud study, Conning & Company reported that 84 percent of industry respondents believe that fraud will increase as the economy worsens.

Given the sheer volume of claims and the elusive nature of fraud, how can companies significantly step up fraud identification without tripling or quadrupling their staff? What role will technology play? How will practices evolve? The answers may lie in how the credit card and telecommunications industries, which also faced serious fraud issues, have migrated from manual fraud identification processes to sophisticated, real-time fraud detection technology.

The insurance, telecommunications and credit card industries share four similar traits. First, fraud is expensive—costing the credit card industry nearly $1 billion and the telecommunications industry $4 billion. Second, millions of transactions occur in such industries (most of which are legitimate), and significant amounts of data make it difficult to spot the "needles in the haystack." Third, there are many types of fraud with patterns that change over time, and some perpetrators are highly sophisticated. Finally, identifying fraud early is important, as links to critical evidence or other related patterns diminish with each hour or day that passes.

Four major phases of fraud detection

Today, the credit card and telecommunications industries are recognized as having highly advanced fraud detection technologies and processes. However, they didn't get there overnight. Both industries followed a four-phased pattern of process change and technology adoption that sheds light on how the insurance industry will likely evolve over time.

Phase I: Manual review

Phase II: Automated exception processing

Phase III: Front-end business rules and scorecards

Phase IV: Real-time predictive pattern recognition and detection

Phase I: Manual audits and review

In Phase I, companies manually audit a sampling of transactions with workers trained to spot abnormal patterns. The reviews take place on the backend, meaning weeks or months after the transactions have taken place. A keen eye and great intuition, fueled by years of experience, are the primary drivers of success. But, because of the sheer volume of transactions and the manual nature of the process, many cases of fraud go undetected.

Insurance companies historically begin their fraud-fighting efforts in this phase, relying on seasoned adjusters or a specially trained group of reviewers to cull through a sampling of claim files looking for suspicious trends or indicators of fraud. While a start, this labor-intensive process allows a significant number of cases of fraud to go unnoticed and is impossible to scale without incurring major human resource expenses.

Phase II: Automated exception processing

In Phase II, as transaction systems become more automated, exceptions are identified based on specific criteria that are hard coded into transaction processing logic. This reduces the number of cases that need to be reviewed, but only catches the outliers and obvious low-hanging fruit.

A significant amount of manual review is still necessary in this phase, and a high number of false positives (claims that are identified as suspicious but that are actually legitimate) limit the ultimate number of cases that are investigated and successfully prosecuted. Another problem with exception processing is that it only looks for missing or non-standard ranges and values within the fields normally captured by the transaction systems—most of which are legacy systems that have not been designed with fraud detection in mind. As with Phase I, Phase II is back-end oriented and reactive.

Most insurance companies are in this phase today. They've begun the automation process, supplementing review and referral criteria with exception processing and claim system audits. Getting to the next level requires changes to both the sophistication of detection and the timing in the claim process.

Phase III: Rules engines and scorecards

In Phase III, companies codify known indicators of fraud to build rule engines or scorecards. The rules are based on the analysis of past experience and represent best practices learned over time. Business rule "if-then" logic is applied as early in the process as possible, with the most advanced companies applying it as each transaction is initially processed.

In this phase, all transactions are reviewed automatically and consistently, eliminating the variances that naturally exist across a group of employees. With the first level of screening automated, company experts are now more focused on likely cases of fraud, helping to optimize their time and talents.

While a giant step forward, this approach isn't without its shortcomings. Rules are generally static, meaning they have to be created, programmed and maintained over time. Fraud is dynamic—patterns change and new variants emerge. Sophisticated criminals learn to engineer around typical rules. Fraud is also multi-dimensional and difficult to fully capture without creating and maintaining hundreds of integrated rules.

Many insurance companies have entered Phase III, although most have not automated the process or deployed it at, or near, the first notice of loss. In many instances, industry standard and company-specific red flag rules are combined with adjuster training to trigger referrals to the SIU. For insurance companies to fully reach Phase III, they will need to automate their processes and move from reactive detection to proactive detection at the first notice of loss. As they do this, they will see an increase in the consistency and quality of fraud identification, and the timelines of SIU referrals or claim settlement.

Phase IV: Pattern recognition and predictive technologies

In Phase IV, companies use complex data mining and predictive analytic technologies to instantly detect fraud in real-time as transactions occur. Unlike static rules or scorecards, predictive analytics utilize sophisticated computer algorithms to identify subtle patterns and interactions across hundreds of fields of data, adjusting as patterns change or new ones emerge.

Many credit card and telecommunications companies began to implement predictive systems in the early to mid-1990s. The systems have proven successful and quickly paid for themselves. In 1994, credit card giant Visa reported an 18 percent decrease in fraud losses that occurred not only while the company was growing, but also while industry fraud losses were rising.

Nearly every major credit card and telecommunications company uses these types of systems, scanning millions of transactions each day.

Insurance industry moving closer to phase IV

The insurance industry has begun down this path, although few companies have implemented fully automated systems or deployed them across multiple product lines.

Other leading companies are beginning to test and implement Phase IV systems. New outsourced offerings such as LexisNexis® FraudFocus® significantly reduce the costs and technical challenges normally associated with implementing and operating such high technology. In fact, payback periods of six months or less are not uncommon, and can be obtained by slight increases in claim referral or denial rates.

Most claims experts and executives expect that it is only a matter of time before these capabilities are as mainstream in the insurance industry as they are in credit card and telecommunications industries. At that point, those cheating the industry out of billions of dollars had better watch out.

For more information:

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