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Integrating Multiple Analytic Tools For Increased Fraud Detection

By John Lorimer

In the last few years, the use of analytics to identify potentially fraudulent claims has gone from the wave of the future to an immediate daily business need. But what is meant by the term “analytics”?

Analytics means the application of one or more diagnostic tools to a set of data in order to extract or highlight specific details. With regard to detecting fraud, analytics can highlight information in a claim that indicates potential fraud. Different analytics tools can be used to extract this information, including predictive modeling, text mining, business rules, identity matching, link analysis, and others.

The first of these options — predictive modeling — has gained attention in recent years because of its effectiveness in identifying fraudulent claims. Models are built using advanced statistical tools against historical claim data and by using verified fraud cases as the point of reference for what constitutes a fraudulent data pattern. Once the models have been developed, they can be applied to new claims to predict those that are most likely to be fraudulent. These same models can also predict which claims are least likely to be fraudulent, allowing insurance carriers to fast-track meritorious claims.

Business rule systems are sometimes confused with predictive modeling, but they are quite different. Predictive modeling uses advanced statistical techniques to identify complex patterns and interrelationships in the underlying data that are indicative of fraud. These patterns are not pre-defined “rules” or criteria, and are often unintuitive.

Business rule systems, on the other hand, look for specific pre-defined criteria in the data. For example, a claim that occurred within 10 days of policy inception.

Whereas predictive modeling has demonstrated its ability to broadly identify fraudulent claims with minimal false positives, using other analytics tools, including business rules, in combination with predictive modeling can increase the range of fraud identified.

When applied to general fraud detection, business rule systems tend to suffer from high false-positive rates and high maintenance requirements. When combined with predictive modeling, however, strategic business rules tuned to identify very specific conditions can be quite effective. By allowing the predictive models to do the heavy lifting of general fraud identification, then augmenting that with a few very specific rules, the system achieves the best of both worlds.

Text mining is another tool that can add to the power of the overall system. Much of the important information in insurance claim data exists only in free-text fields, such as adjuster notes and description fields. Text mining allows that data to be used by the system. When incorporated into predictive modeling, text mining allows the predictive models to take advantage of words and phrases in these free text fields in combination with the other structured data, which adds substantially to the lift of the models.

With identity matching, individuals, organizations, vehicles, and products appearing on a watch list will be matched to the claim data every time the claim changes. Any matches will be proactively brought to the at-

tention of the SIU as soon as the entity appears on the claim. Any number of watch lists can be utilized, including company internal watch lists, third-party watch lists, lists of salvaged vehicles, or lists of high-risk addresses. This process saves the SIU time and reduces the chance that suspicious entities will be missed.

The tools discussed so far are proactive in that they automatically alert the SIU as soon as a condition in the data indicates potential fraud, but other analytics tools can be applied to search the data for emerging patterns. Link analysis allows the analyst to look for subtle and indirect links between parties to reveal hidden relationships that may indicate collusion or ring activity. The ability of these tools to “visualize” the results in the form of iconic charts makes it easier to uncover the relationships.

While each of these tools — predictive analytics, business rules, text mining, identity matching, and link analysis — is important and can be used individually, their impact increases when used together. These are only some of the major analytic tools available. Having a system that integrates these tools into a single analytics platform gives companies a robust arsenal in the continual fight against fraud.

For more information about ChoicePoint's ClaimFocus integrated advanced analytics platform, visit <http://claimsolutions.choicepoint.com>; e-mail insurance.claims@choicepoint.com; or call 800-934-9698 and select option 5. ■

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