



Industry

Banking

Business Issue

Detect internal fraud in loan process

Solution

SAS® data mining and reporting solutions

Benefits

Risk-based inspection significantly increased fraud detection and decreased unintentional fraud



“With the new SAS reporting tool, our inspectors can pin-point very specific internal fraud irregularities. Inspections can now be carried out in much less time with increased accuracy and efficiency.”

Jan Daems,
Project Engineer for KBC

The Power to Know.®

Enhanced fraud detection at KBC Bank SAS reporting tool increases inspection efficiency

With hundreds of installment loans in force at any given moment, it is imperative that KBC Bank be able to immediately detect internal fraud by bank personnel. The company turned to SAS and its IT solutions to provide a sound electronic fraud detection system. The SAS data mining tool compiled all data countrywide and constructed several new rules to detect fraud. The extensive SAS reporting tool enables managers to spot irregularities at a glance. They can immediately recognize any case that may need further investigation. It also flags the branch where these problems occur.

Intentional vs. unintentional

KBC Bank records all its installment loans on a central mainframe system. These files contain all the essential information pertaining to a loan. That includes characteristics such as identity of loaner and borrower, location of the branch where the loan was issued and changes that were made to the loan. This data is the cornerstone from which the search for any irregularities in the loan process begins. “We first had to identify the different irregularities that can occur”, says Jan Daems, project engineer at KBC Bank. “On one hand, there are the unintentional errors, cases where irregularities occurred by accident. We wanted to filter those out and zero in on the real fraud cases. Those encompass an array of irregularities and illegal acts characterized by intentional deception.” The reality however, is that only a small fraction of all apparently fraudulent cases are intentional, making them very hard to detect. This is particularly true with a database as large as the one at KBC headquarters.

Computer assisted inspection

Each of the more than one thousand retail, private banking, and corporate KBC branches is inspected every year. These inspections occur regardless of the

likelihood of risk for irregularities. That means that every branch receives equal attention. If specific signals emerge, special investigations are conducted. These signals can come from very different sources, ranging from clients, colleagues, inspectors, and e-inspection tools. And that is where SAS comes into play. “We wanted to expand and improve our e-inspection tools,” explains Daems. “That way, we would detect internal fraud even faster and react instantly. We chose SAS as our IT partner because they have a long history of success in the IT world and combine expertise with experience.”

Data mining sets new fraud detection rules

KBC Bank made a very specific request to the SAS experts. The company wanted a thorough profiling and ranking of their branches with respect to loan fraud risk. To accomplish this, the large data cube on the mainframe first had to be reconfigured. “We used SAS to gather all the relevant information from our databases,” explains Daems. “Then we used SAS® Enterprise Miner™ to search for new fraud detection rules, next to the rules we were already aware of. These are specific sets of instructions the bank personnel must comply with. When we combine these new rules with those we have already set up in the past, we gain a profound insight into internal fraud. An example of one such rule is whether a loan has been issued without consultation with the National Bank of Belgium. We need to ascertain if clients have loans at other banks before we can confidently issue one ourselves. Another rule serves to determine whether the pay back account really belongs to the credit owner. The real power of the SAS data mining tool lies in the fact that we were able to connect data we believed was uncorrelated, and construct new rules.” In total, KBC added five new fraud rules to the existing set of nine rules. This significantly increases the chances of

fraud detection and decreases the percentage of unintentional fraud cases.

Combined reporting of risk scores and rules

However, the SAS application goes much further than just data mining. Fraud rule results are converted into risk scores and then displayed by the SAS extensive AF reporting application. The reporting application gathers all the information from the rules and transforms these absolute numbers in percentages and relative scores. This data is then combined to create total risk scores for each branch, countrywide. The higher this score, the more likely irregularities occurred at that specific branch. The SAS reporting tool allows the user to choose from an extensive array of graphs to plot these risk scores. "That way, we can instantly spot where irregularities occur, determine whether these are intentional or not, and take appropriate action in case of fraud," says Daems.

Drill-down to a single branch

The opening screen of the reporting tool shows a list of all the KBC branches. This list can be sorted by name, number of loans, and total risk score, as well as by the score of each individual rule. KBC managers can immediately spot very specific fraud irregularities. If the inspectors want to have a closer look at a specific item in the list, they can simply drill-down to the layer below with one simple click. They can see specific

information about the loan or the exact location of the branch. Furthermore, inspectors can combine all the risk scores of all branches to get an overview and monitor its evolution over time. "We can even enable or disable certain rules in a graph to only retrieve the information we are interested in," notes Daems. The solution is fully customizable and the options are nearly infinite.

Efficient time allocation

The SAS solution can significantly enhance overall fraud detection at KBC Bank. Daems points out that the SAS reporting tool has important analytic features for different users and purposes. "Based on the information we retrieve from the reports, we can now allocate the time we spend on our inspections optimally and use the risk scores to evaluate which branch we should inspect next. Because we now know better what to look for, inspection can be performed much faster and more efficiently than before." As the rules encompass information about clients and personnel alike, the reporting tool can be used to detect external as well as internal fraud.

"With the SAS solution, we can now track internal fraud significantly faster and more effectively. That strengthens our position as trustworthy banking and insurance company even further. I am confident that a lot more business advantages will emerge from the SAS application in the future," concludes a satisfied Jan Daems.

KBC Bank, one of the big four Belgian banks

- Founded in 1998 through the merger of three important Belgian financial institutions.
- Third largest banking and insurance company in Belgium for private individuals and middle-sized enterprises.
- 48,000 employees in Europe.
- 11 million clients continent-wide.
- Successful expansion of bank services in Central Europe, including Hungary, Poland, the Czech Republic, Slovakia, and Slovenia.



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