Fraud in Auto Finance Sample Case Study

Background, Problem Statement and Objective

Most Auto Finance Lenders have a policy or strategy of Repossessing vehicles (by towing them) of delinquent customers, this is to avoid Skip Losses (where the customer and vehicle are both untraceable) and Fraud Losses (there could be a variety of Frauds possible). Furthermore, Repossessing vehicles at an opportune time helps the lender get a reasonable amount by auctioning the vehicle before the vehicle's value begins to drop rapidly due to increasing depreciation.

Our Client didn't have a Risk Based Repossession Strategy, rather there was a Flat Repossession Policy, to Repossess vehicles of customers who are beyond 90 Days Past Due (DPD), though there was a target to Repossess vehicle before the customer becomes 120 DPD, there were significant operational constraints (Example: If there are 1000 cars to be Repossessed in 30 days, and there is resourcing capacity to Repossess only 500, there is high likelihood that the remaining 500 cars would be Skip or Fraud Loss, and by the time there is capacity to work on these accounts, the loss would have already occurred). Which lead to a steady increase in losses (with a significant percentage of Skip and Fraud Losses)

To curb this, business replaced the existing policy with a flat 75 DPD Early Repossessing Policy. Though this helped to a certain extent, check on the Skip and Fraud Losses, it swung the pendulum to the other side, there were too many Repossessions, with vehicles flooding the garage (vehicles depreciated rapidly sitting in Garage) and in most cases the auctioned value of the vehicle was way too less than the Outstanding Account Balance (of course, it's given that the Loss Mitigation is a lengthy time consuming process). At the other end of the spectrum, without a Risk Based Strategy, vehicles of customers with high likelihood of making payment were also Repossessed.

Our task then was 1. To reduce the Skip and Fraud Losses and 2. To Optimize the Repossession Timing

Some Challenges

1. Repossession Timing Strategy has never been tested by Business previously

2. Accuracy – Proposed Strategy is required to identify High, Med and Low Risk Customers with a very high level of Accuracy as each of these groups would receive very different treatment (Such as Surgically identify and Repossess vehicles of Very High Risk Customer Immediately), thus there is a very small error margin (or False Positives). Any lax in Accuracy would cause Repossession Losses to go up without decreasing Skip and Fraud Losses, thus defeating the very purpose.

3. Repossession Optimization – Proposed Strategy once Implemented, would have direct and immediate impact on Skip and Fraud Losses with no additional time to make any adjustments.

Solution Offered

We designed a High Accuracy Risk Based Model which would segregate between customers with high propensity to make payment and recover vs. customers with high likelihood of Skip and Fraud.

And Based on the Risk Bands to Optimise the Repossession Timing such that there are just enough Right Repossessions at the Right Time (without overwhelming the Operational Capacity) which would reduce Skip and Fraud Losses as well price the Repossessed vehicles for good value in Auction Market.

Repossession Timing has been proposed as follows:

1. Accelerate Repossession Decision (or Repossess the vehicles sooner) for customers with
   a. Very High Likelihood of Skip and Fraud (Repossession Starts at 65 DPD)
   b. Unlikely to make any further payments
2. To Delay Repossession (till 120 DPD) for customers who are likely to make payments (and to continue recovery operations from such customers)

Performance Window and Good Bad Definition

   a) Good - All Loss accounts from a list of Confirmed Non-Fraud accounts within 3 months
   b) Bad - All identified Fraud and Skip Loss account for same time period

Significant Variables
Final Model Developed using a combination of below mentioned variables

   Prime / Non-Prime Customers
   Times 90+ in Last 12 Months
   Internal Behaviour Score (Observation Month)
   Equity at Risk
   Days Since Last Contact

Further to make the Implementation process simpler there were:

1. Automated Cure Letter Timed based on Risk Band
2. Days to REPO Displayed through Wizard Pop-Ups on Collection Screens
3. Accounts routed to REPO Agents at Designated DPD

Business Benefits

Model Declared Champion with $3 mm+ Loss Reduction in 6 months of Strategy Implementation