Case Study

A leading Indian NBFC

Service(s) offered: **Collection Optimization**

Sector/Industry: **Non-Banking Financial Company**

Optimization of collections using Analytics

Our Client, a leading Indian NBFC, is part of a USD 5 billion group. The company is spread over 100+ offices, has serviced over one million customers, and leads credit lending for two-wheeler purchases.

Collection, a critical function for every NBFC, was identified as a problem area in the Client's processes. Around 10% to clients dishonored monthly EMI payments, leading the collection process to become highly expensive without significant results. They approached us to intervene at this stage and execute improvement and optimization on their processes to increase the collections while minimizing the money spent on it.

Challenge

- **High representation bounce rate**
  Each payee with a bounced payment was given second chance to make the payment, a process technically termed representation. 90% of these attempts defaulted again, leading to heavy wastage of representation cost and efforts.
- **High cost of collection**
  Collecting default payments is a resource-intensive job, which made it costly. Moreover, the field collection team couldn't carry out the collection functions during the representation period, i.e. the first half of the month, bringing down the productivity significantly.

Nexdigm was mandated to explore opportunities to address these challenges through process optimization using data-driven analytics.

Our Solution

Through our initial assessment and discussions with the business teams, we identified three major focus areas- effective customer engagement, improved field team productivity, and optimization of the collection process. After a detailed analysis, we converted these focus areas into two specific problem statements:

1. Representation Process Optimization
2. Effective Customer Engagement

Representation Process Optimization

a) The existing representation process

- Was spread over 14 days, impacting the productivity of the collection team.
- Needed a lot of manual data consolidation with the involvement of multiple teams
- Automated filtration of cases was missing, which led to low realization rates and high cost of representation.

b) Solution designed

- Developed Machine Learning (ML) backed predictive models for more filtered representation.
- 70% of 10% dishonored payments were filtered out based on the above model and directly forwarded to the next step, saving time and representation cost. This also reduced the idle time of the field collection team and increased their productivity to almost double.

Effective Customer Engagement

a) Existing process

- The customer database had inconsistent and incorrect details limiting contact with them. The defaulters who could have been engaged with and reached out to before the EMI due dates.
- SMS campaigns did not impact the outcome because of carpet bombing marketing approach and incorrect data.

b) Solution designed

- Developed a communication strategy backed by Predictive Behavior Models to intervene before the due date. This avoided the unintended defaults in payments and controlled future delinquencies.
- Mapped communication channels (voice blast, tele-calling and SMS) basis the customer profile. This led to a reduction in the burden on the field collection team since a number of clients responded to the first round of communication itself.
- Implemented database improvement initiatives.
- Identified patterns of response by customers to multiple mode and tone of communication. This impacted customer behavior positively and brought down unintended defaults

Model Framework

We built machine learning models in sequence, to predict:

- Cases to be filtered in the representation process
- Cases which an be closed just through tele calling reminders.

The models were based on an analysis of 15 years of data and close to 5 billion data touch-points.

Sampling Technique
Using Stratified Random sampling, we divided the sample base into Training (70%) & Testing (30%)

Variables Used
Models considered various parameters such as customer profile, historical performance, payment features, etc.

Technique Used
We built multiple classification models and combined them using the Ensemble approach. XGBoost was the preferred classification technique after evaluating multiple techniques.

We applied the Weighted Voted Mechanism on the output of each model to generate the final recommendation for representation.

Model Performance
Our models had resulted in ~30% of realization rate compared to the company's average rate of ~10%.

Impact

- Based on our model, only 30% of the default cases were sent to representation, thereby reducing the cost of representation by around 70%
- Reduced the turn-around time of the representation process by 21%, through process optimization.
- Realized a significant improvement in field productivity, since 70% of the bounce cases were now being routed directly to the field collection team without wasting time on the representation process of all default cases.

> “As part of our ongoing efforts to optimize collections and improve working capital, we worked with Nexdigm AI and Intelligent Automation team to improve the effectiveness of collection through representation of electronic instruments. We handled the project from proof of concept to complete solution. The project has saved us substantial cost and unlocked significant field collection bandwidth. An excellently well-handled project by Nexdigm.”

Chief Manager
Analytics

For more information on this case study, please write to us at:

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You can also visit our website to know how our services resulted in tangible business benefits:

www.nexdigm.com