

Use Case: Customer Acquisition and Lead Evaluation Service

Client and Requirement

A global, financial institution focused on consumer and Small/Medium Enterprise (SME) credit:

- Significant online and mobile presence
- Provides a range of B2C and B2B digital lending products
- Planning to grow its lead generator channels across Europe, North America and Asia-Pacific
- Requirement to improve overall portfolio profitability and volume
- Focus on sub-prime and near-prime customers

Problem

The client faced challenges in customer acquisition and buying leads. They wanted an automated, intelligent system to answer the following questions prior to lead purchase:

1. *The level of lead interest?*
2. *How likely is the lead to:*
 - a. *complete the customer journey (via website or mobile application)?*
 - b. *be accepted by the decisioning and underwriting system?*
 - c. *default, if a loan is granted?*
 - d. *exhibit fraudulent behavior (e.g. never pay, once the loan is granted)?*
3. *Is the lead prime, near-prime or a sub-prime?*
4. *Given the above, is the lead correctly priced?*
5. *If accepted, will it be profitable?*
6. *Can you integrate easily to multiple lead generators, across countries and regions?*
7. *Can an automated system do this and still accurately filter profitable leads?*
8. *Can an automated lead evaluation system answer some*
or all of the above accurately in real-time?
9. *Is the lead in the system already, or on a black-list?*
10. *What is the likely retention rate and life-time-value (LTV) of the lead?*
11. *If accepted, will the customer use company's financial products again and how often?*
12. *What are the predicted, risk adjusted, credit limit and terms that can be safely offered?*

Solution

Using the following Acquired Insights adaptive platform components, Acquired Insights provided an intelligent, automated lead evaluation system:

- Decision Engine (DE)
- Models Library (ML)
- Analytical Data Warehouse (ADW) featuring our workbench with advanced engineering techniques
- Behavior Data Warehouse (BDW)
- Dynamic Customer Journey Framework (DCJ)

These components measured and predicted lead behavior consistently across large number of countries and regions. It provided accurate answers to the above questions using automated, real time decisioning. Initial lead volume was approximately 3000-5000 leads per day, rising to 6000 - 8000 per day.

Implementation

Implementation was split into three phases:

Phase I

Phase 1 included the core lead evaluation functionality. For each country/region, Acquired Insights used a range of Models Library (ML) models including default, fraud and limit management. (ML models are pre-tuned, highly predictive, and country/state compliant.) In addition, behavioral, credit bureau and further data sources were integrated to support AI/ML techniques.

Input

The input to the Decision Engine/Models Library (DE/ML) was via standard API. Data was captured from multiple lead generators. (The system was rapidly connected to more than 5 lead generators.)

The DE was also connected to the client's Loan Management System (LMS) and Black List database.

Output

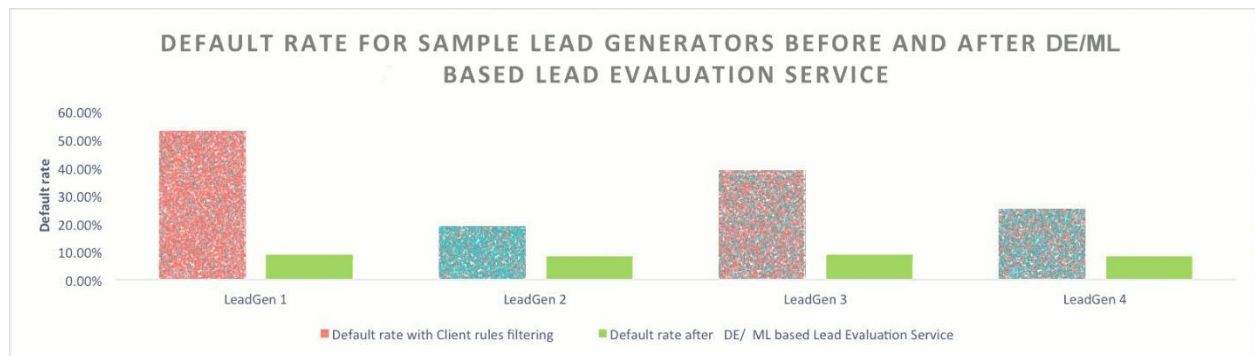
The DE/ML output consisted of a range of probability scores covering each of the questions described in the problem section above. These were granular and optimized for each country/region/lending product/portfolio. The output was also used to determine whether the lead provided was correctly priced before purchasing. A comprehensive range of performance statistics were also produced for each lead source. A range of real-time and periodic monitoring graphs and reports were configured using the DE dashboard.

Both inputs and outputs were integrated via the DE's flexible JavaScript Object Notation (JSON) API to the client's existing systems.

Phase I Results

Phase 1 was implemented in 9 weeks.

- It lowered customer acquisition costs by 32%
- It increased new customer acquisition volumes by 21%
- It provided the client with the ability to grow online customer acquisition and increase geographic and regional coverage while controlling defaults



Using the Acquired Insights platform components saved time. The system was tuned, tested, validated, calibrated and deployed within 9 weeks. It provided a fully automated, intelligent straight

through processing (STP) system. It also enabled the client to adapt quickly to subsequent geographic, market sector, and product changes.

The process of optimizing lead acquisition also exposed other issues. Certain leads with good default characteristics, (i.e. good potential customers), were not converting and were abandoning the online customer application journey. To address this issue, our Decision Engine (DE), Behavior Data Warehouse (BDW) and Models Library (ML) were used for conversion prediction and to manage the dynamic customer journey. This was provided in Phase 2.

Phase II

3 months' lead performance data was collected. This included:

- behavioral
- conversion
- acceptance and
- default data

A range of conversion models were then applied for each country, region, financial product. Lead behavioral data was captured and used as further input.

Enhanced Output

Our DE decision workflows were applied to predict the best product and risk adjusted offers to improve conversion. A/B tests were conducted to tailor financial products offered. Our DJ, BDW, and ML were used to dynamically personalize and optimize the customer journey.

The conversion score was also made available at lead evaluation time and was further, dynamically adjusted based on the customer's web/mobile behavior. This enabled the system to personalize further the approach and offers for each lead.

Phase II Results

- Increased customer conversion rates by 27%
- Increased new customer acquisition volumes by an additional 12%

- Accurately measured lead generator conversion rates across countries, regions, digital financial products and lead generators.
- Identified good customers who were not likely to convert and conducted a/b tests to increase conversion of these customers

Following Phase 2, the system was periodically tuned and more lead generators added. Also, some lead generators charged higher prices for good customer leads. It was hard to determine whether the lead was viable or over-priced without knowing its predicted retention and loan-to-value (LTV). Based on client's loan portfolio performance, ML retention and LTV models were used to provide additional, predictive lead scores. Both Retention and LTV models were further tuned after an additional 3 months' lead data was collected for each connected lead generator.

Phase III

The objective was to measure and improve further lead retention and LTV. Using our DE, Acquired Insights deployed additional predictive ML retention and LTV models for each country and geography implemented in Phases I and II.

Input

No additional input was required.

Enhanced Output

The enhanced output consisted of a range of scores including retention score and LTV for each country, region and product combination.

This output, in conjunction with other scores, was used by the DE intelligent workflows to determine whether the lead provided was correctly priced, taking into account default, conversion, retention and LTV, before purchasing.

Phase III Results

- Increased new customer acquisition volume by an additional 9%
- Enhanced evaluation of lead pricing prior to purchasing

- Further increased overall system accuracy and acceptance rates
- Improved selection and optimization of lead generators

Overall Improvements

The overall improvements achieved are summarized below:

Results

- 32% reduction in customer acquisition costs
- 48% increase in new customers

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