Reduced Loan Delinquency Via Effective Alert And Tracking Framework

Our customer is a small business lending firm that finances business merchants across the United States. Established in 2006, they've witnessed incremental growth over the years. The firm provides financing to a wide range of businesses including restaurants, hotels, medical professionals, manufacturers, wholesalers, automotive dealers and suppliers.

Objective

- To implement a risk model that helps the lending firm predict if or when a customer may turn delinquent - 30 days prior to defaulting.

- To ultimately grow the business by empowering financial advisors with KPI's in a visually dynamic environment.

Pain Points

- The firm's operations team needed a robust delinquency risk model that would track and raise timely alerts to flag loans that may go delinquent within the next 30 or 60 days.

- The model required to be mapped to a business process, and its performance would have to result in a business outcome – lack of an effective delinquency risk model in place resulted in loan delinquency, expensive and laborious process for loan recovery.

Solution

- Architected and defined a risk framework predictive model.

    Delinquency Risk Model
    - The model is a simple logistic regression built on nearly 30 variables in the final model, with the dependent variable being "If the customer would-be 30-day delinquent". The objective being to reduce losses because of delinquent customers.

    - The model consumed multiple data variables, further classify the applicants to predefined risk buckets. E.g. A+, A, A-, B+ etc. - ultimately predicting the probability of a customer to be delinquent
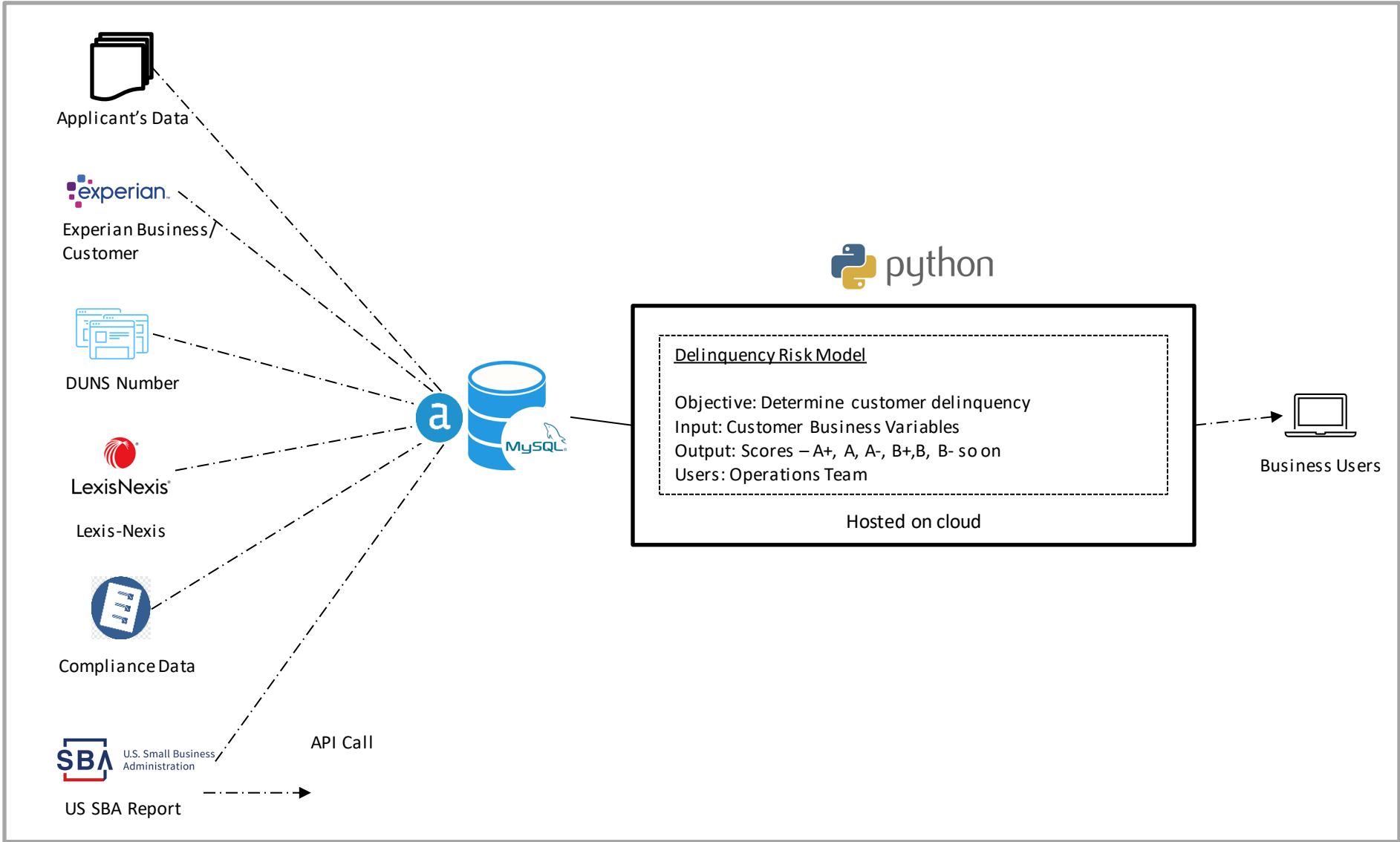
Results

- The predictive model used to build, and architect the delinquency risk models improved the overall quality of the tracking loans - empowering the team to focus on loans that may turn delinquent well in advance.

- The model provided the operations with a highly robust and scalable process capable of determining at the click of a button which loans may go bad, how soon they may go bad - saving costs, time in laborious loan recovery process.

Solution

Development and Hosting

USEReady developed the risk model in Python and hosted it with an API endpoint for easy access.

The data preparation was achieved using Alteryx platform by connecting to SOAP API and MySQL database.

Applicant's Data

experian.

Experian Business Customer

DUNS Number

LexisNexis®

Lexis-Nexis

Compliance Data

SBA U.S. Small Business Administration

US SBA Report

API Call

python

Delinquency Risk Model

Objective: Determine customer delinquency
Input: Customer Business Variables
Output: Scores – A+, A, A-, B+,B, B- so on
Users: Operations Team

Hosted on cloud

Business Users

Credit Risk Model Using Python

USEReady