Credit Risk Management at Leading Turkish Consumer Lender

Business Problem

Client operates large consumer lending business with ∼6M credit cards, ∼8M debit cards, ∼500K POS, and over 50B dollars of risk exposure across several lines of businesses, and a product gamut ranging from credit cards to mortgages. The low profit margin, high competition, and restrictive regulation in the market discourage senior management to expand the portfolio. Client is looking for a solution that promise sustainable growth in market share, while simultaneously reducing total risk and meeting the regulatory constraints.

Business Solution

Credit Risk Management is a holistic affair: Various types of risk borne across the entire credit life-cycle (from origination to collection), across a portfolio of products (credit cards, overdrafts, mortgages), and across a spectrum of lines-of-businesses (retail, SME, corporate) should be diagnosed, estimated, and integrated. Meanwhile, it is no longer a luxury but also a regulatory affair as supervised by local&global legislation. The proposed solution was an ambitious one: Quantifying the credit risk across the dimensions above, and incorporating risk estimations into every credit risk decisions in an automated manner.

Business Results

Since the inception of the system (which was implemented in phases), average cost per consumer was reduced by 21%, Client made 34% more profit per credit line. Intelligence employed at Originations helped Client harvest more profitable and less risky consumers and it boosted Client's market share by 24%. Client has become the market leader in consumer lending. Efficient limit management improved the total outstanding balance by 18%. Fraud Loss was reduced by 42%. Collection and Recovery Operations has gained sophisticated Strategy Management tools by which system prioritize each collection activity to maximize the collected amount without compromising the quality customer experience. The recovery ratio reached historic peak (doubled at the very first year of program). Last but not the least, the upper management has attributed the lion's share of this success into the Risk Management Program.

Intelligence

Credit Risk Analytics stand on the shoulders of three quantities at every stage of a credit's life: Probability Of Default, Exposure Given Default, and Loss Given Default. This holy trinity of Credit Risk Analytics dictate the build, maintenance, and monitoring of hundreds of predictive risk models across a product portfolio, across credit life-cycle, across several lines-of-businesses, and through time. Adding to the complication is that, models should be interpretable, and make economic sence as overseen by the regulatory authority.

Speed

Models are built monthly, scoring is done daily, and monitoring is done monthly.

Scale

$\sim$400 risk models in the form of classification, regression and clustering models.

Automation

Initial fine tuning for each model is done by the analysts. Model update, scoring, and monitoring is fully automated.

Adaptivity

Model building is adaptive on a monthly basis; Model parameters are updated with freshly generated data. Adaptivity is mandatory as credit dynamics are rather fickle.