TURNKEY LENDER - SCORING MODEL DEVELOPMENT SERVICE

TurnKey Lender is a global leader in Unified Lending Management (ULM) with a robust solution that digitizes the entire lending process for innovative lending businesses. The market leading solution is powered by an intelligent decision engine that automates loan origination, decisioning, credit scoring, risk mitigation, loan management, collections, and credit portfolio intelligence.

TurnKey Lender provides expertise in the creation of accurate credit scoring tailored to numerous types of businesses, borrower segments, and markets worldwide.

TRUSTED BY HUNDREDS OF BUSINESSES IN 50+ COUNTRIES

TurnKey Lender's Risk Analysis team is praised by its customers from Top-5 international banks to award winning alternative lenders. Dmitry Voronenko, founder and CEO, has a PhD in Machine Learning and Artificial Intelligence and a team of 130+ in-house experts in its R&D center, headquarters in Austin, Texas and offices in the UK, Belgium, Ukraine, Singapore, Malaysia and the Philippines.

INTRODUCE RISK-BASED PRICING WITH TURNKEY LENDER:

130+
EXPERTS INCLUDING PhDs IN MACHINE LEARNING AND AI

100+
DEVELOPED SCORING MODELS

15+
TYPES OF SCORING MODELS

TurnKey Lender

TurnKey Lender develops and adjusts scoring models according to client's unique credit policy and the challenges of certain market environment. For these purposes, we use combinations of different traditional borrower evaluation and alternative approaches to ensure the most precise estimation of the creditworthiness and to reduce credit risks:

TRADITIONAL SCORING
- Credit/Application
- Fraud Prevention
- Financials
- Firmographics
- Behavioral
- Transaction
- Collection

ALTERNATIVE SCORING
- Big Data
- Mobile
- Smartphone
- E-Commerce
- Social Network
- Psychometric
- Bank Account Statement
- Skip Tracing
- Credit Limit Management

TurnKey Lender Scoring Model Development includes

FEASIBILITY STUDY

Assessment of client's data to build scoring models

SCORING MODEL DEVELOPMENT

Build traditional and alternative scorecards and their combinations

SCORING MODEL MAINTENANCE

Calibrations and adjustments

Scoring Model Development Process

1 Assessment and planning

2 Data gathering and analysis

3 Scoring model development

4 Scoring model implementation

5 Scoring model monitoring and maintenance

TurnKey Lender

Assessment and planning

Turnkey Lender will assess business goals, scoring model usage, credit policy rules and business processes that are directly related to the future functioning of the scoring model and regulator's compliance rules.
As a result, we will identify which scoring models are the most appropriate and provide recommendations.

Data gathering and analysis

TurnKey Lender starts with data collection and identifies sources of historical data that can be used in the project. Next, we find statistical properties of the borrower's characteristics and select variables for use in the scorecard development process. Data analysis is then carried out to find relationships between variables, determine structural dependencies and other features of the loan portfolio and the impact which must be considered when building a scorecard.

Scoring model development

The scoring model development process is considered as a sequence of the following steps:

| PREPROCESSING	FEATURE SELECTION	MODELLING

• Data Cleaning
• Distribution Analysis
• Statistical Analysis
• Correlation Analysis
	• Binning – High IV & Correct Logical Trend:
	  - Equal Width
	  - Equal Percentile
	  - Chi-Merge
	• Predictive Ability Analysis
	• Checking the features on compliance to the business process
		• Training and Validation Datasets
		• AI and traditional modeling
		• Model Analysis
		• Gini
		• Confusion Matrixes
		• Risk Distribution
		• Events Distributions
		• Scoring Model Scaling
		• PD Estimation

Scoring model implementation

1. Scorecard delivery options:
   - Implemented within Turnkey Lender's decision engine, hosted or on-premises and equipped with APIs
   - In the form of Excel / MS SQL / PL SQL / PMML / Python / XML / HDF5 file depending on the selected scorecard development approach

2. The Scorecard Development Report will include a detailed description of the work and achieved results:
   - Dataset description
   - "BAD" borrower definition
   - Classification of borrowers by risk groups based on score
   - Variables description
   - Data cleaning procedure
   - Correlations analysis
   - Predictive ability analysis
   - Data transformation procedure
   - Training, validation and test data sets
   - Modelling process

Monitoring and maintenance

Scoring model calibrations are conducted on a regular basis and adjusted according to each client's unique credit policy. This ensures that scoring modes stay tuned and provide the most precise estimation of creditworthiness.

Maintenance services of scoring models include

- Scoring model performance analysis and evaluation of the borrowers' segments by ratings though:
  - System stability report
  - Trend stability assessment
  - Report on the analysis of the selected parameters
  - A complete report on the parameters
  - Final scoring report
  - Model adequacy report
  - Delinquency distribution report
  - Adequacy and precision of the scoring model
  - Delinquency time analysis
  - Delinquency migration report
- Development of recommendations and scoring model calibrations
- Scoring model performance presentations and discussions
- Methodological support on the use / adjustment / implementation of the scoring model
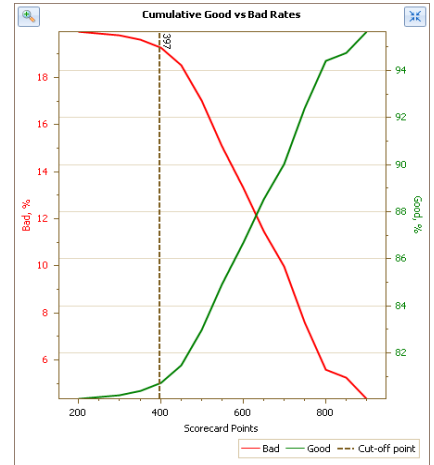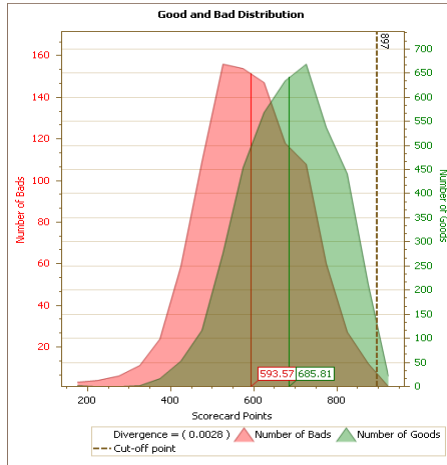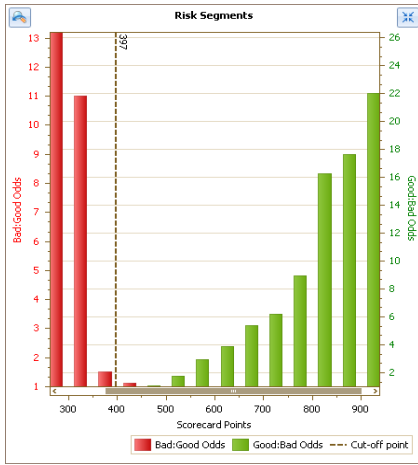
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