





New Technologies Advancing Scoring Reliability

According to the Central Bank of the Russian Federation, as of December 1, 2018, the annual growth rate of the Russian banks' aggregate portfolio of individual unsecured loans increased up to 22.5% - twice much comparing with 11% at the beginning of 2018.

The evolving dynamics fuels banks' interest towards a more thorough analysis and selection of potential borrowers.

The range of elements of the credit risk management system is noticeably wide, however, the article focuses on its cornerstone - the most technologically advanced and effective element - scoring.

In retail lending, we can distinguish three main types of scoring: credit application scoring, fraud scoring, and behavioral scoring, as a matter of fact, a combination of all the types is required to achieve better results. The estimated parameters used for scoring differ slightly from bank to bank, moreover, the Russian bank primarily utilize the same parameters as the Western banks.

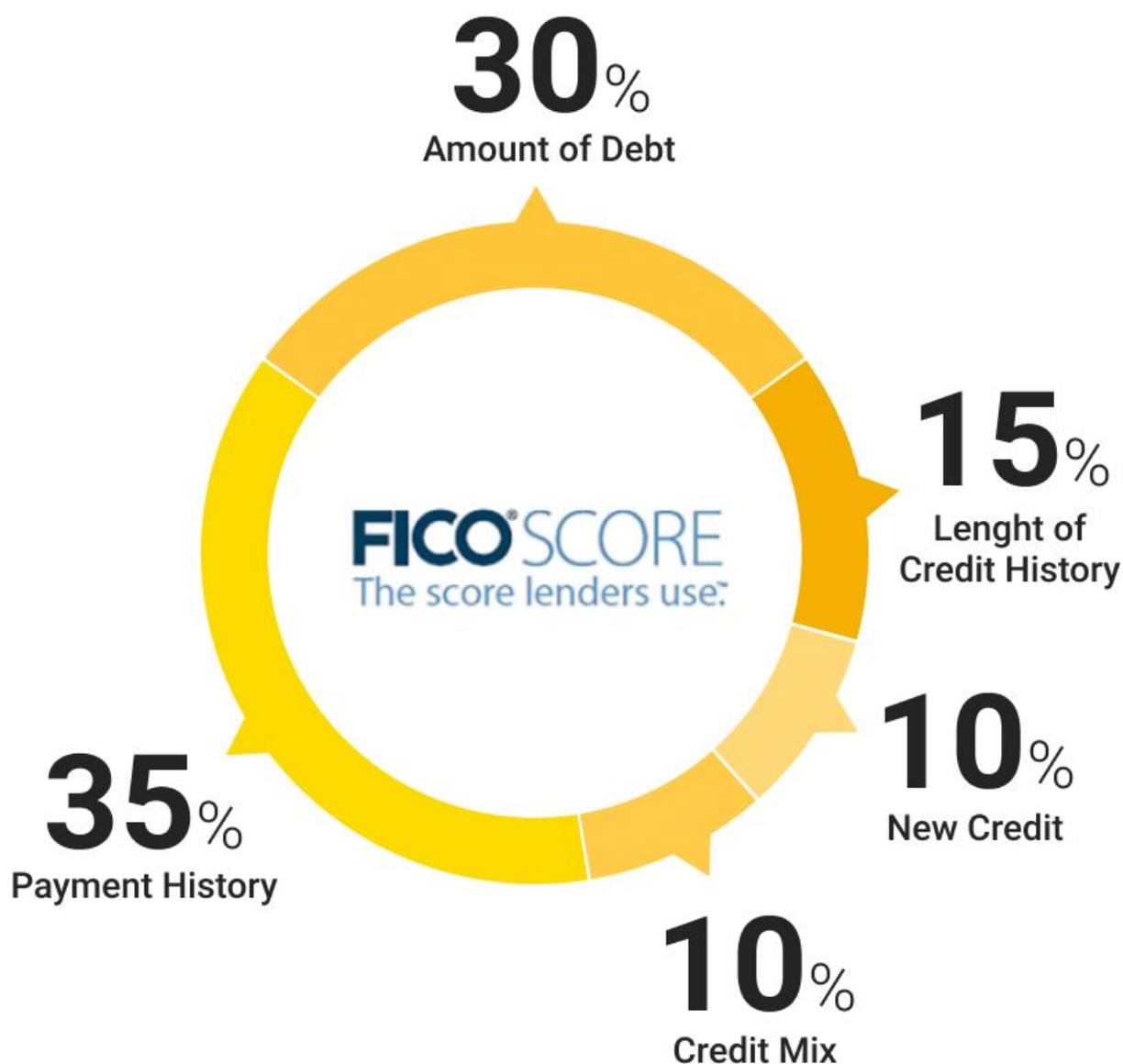
Key criteria are the following:

- the client's personal information (the reputation of the individual, responsibility upon previous loans, clarity of the purpose of the loan);
- the ability to borrow funds - legal right of the borrower to submit an application, sign the loan agreement;
- an income for the current activities to repay debt (solvency);
- capital - sufficiency of unencumbered property;
- loan security - the value of the borrower's assets and/or a specific secondary source of debt repayment (collateral, surety, insurance) provided in the loan agreement;
- terms of the transaction - the current and forecasted economic situation, compliance of credit conditions and the activities of the borrower with the law, etc.

These criteria consist of a number of parameters and are subject to statistical processing to create scoring cards. Each parameter (gender, age, earnings, etc.) has a specified 'weight' in the scoring card - the degree the parameter influences the total result. Cards differ depending on a credit product, a type of scoring, an economic condition of the market, etc. Scoring card results provide a basis for scoring model development.



An example of a scoring model developed by FICO is given below. It takes into account payment discipline (35%), debts (30%), length of credit history (15%), previous loan requests (10%), borrower's credit portfolio (10%).



Technologically, the Western scoring systems FICO Score, SAS Credit Scoring, Egar, etc. set the pace for the Russian market. However, many large banks, in addition to the ready-made solutions, including those developed by Andersen, are launch their own add-ons based on applied mathematics to increase the accuracy of their estimates.

A new stage in the development of scoring systems is associated with the development of machine learning technologies. These complex systems consist of segments with different information about the borrower. Besides credit history data, the systems are able to use alternative data sources, including the study of behavioral factors. According to The New York Times, the research revealed that use of



alternative data enables to calculate scoring for more than 20% of the loan applicants who previously appeared out of scope due to the insufficient information.

Additionally, borrower's activity in social media will be playing an increasingly significant role in building scoring models in the near future. For the time being, this factor, however optionally, is taken into account by many banks (Tinkoff, Alfa-Bank, OTP Bank, Home Credit Bank, and others), but it slightly affects the scoring result if the credit manager does not notice any direct indications of unreliability in profiles. Possibly, in the near future, a special program will evaluate the cost of meals on a plate or the cost of the borrower's clothes and those of their family from a photo posted on the Internet.

With more than ten years' experience in FinTech services development, the Andersen experts are involved in a number of innovative scoring model projects. We employ traditional technologies as well as machine learning technologies - upon request of our clients - for parallel analysis of data about a borrower from several sources.

Find more about our completed FinTech projects [here](#).

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