STATISTICA Decisioning Platform®
for Financial Services

Combining Predictive Analytics, Text Mining, and Rules Management for Reducing Credit Risk and Increasing Profits

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Financial Services companies face the challenging task of making credit decisions in a complex and uncertain environment.

Decisions regarding credit limits and approvals must be compliant with regulatory and policy rules, reflect known segmentation (rules) among products and customers, and incorporate standard as well as advanced and emerging predictive risk modeling techniques, such as text mining.

The STATISTICA Decisioning Platform™ for Financial Risk Management is a proven solution at some of the largest and most progressive financial institutions in the world. The STATISTICA Decisioning Platform provides the most effective platform for financial services organizations to combine structured and unstructured data, manage simple and complex segmentation (pre-scoring) and policy (post-scoring) rules, and to incorporate predictive models and conditional scoring logic into efficient managed decisioning flows. These flows can be directly deployed to batch or real-time scoring environments without requiring any "re-programming."

With STATISTICA, the tasks of building and deploying scorecards, scoring models, and flows can now be completed in a fraction of the time, allowing more models to be managed and routinely recalibrated. More customers can be approved for credit with higher limits without increasing the default rate. Batch scoring of all customers and accounts will be faster, and real-time scoring for online or other real-time applications will be more responsive.

The STATISTICA Decisioning Platform addresses the typical array of challenges, and scales to financial service organizations of all sizes:

- regulatory pressures to provide consistency and transparency in credit risk decisions
- a wide array of loan products to meet the needs of a variety of customer segments, both in personal and commercial lines
- demands to increase the profitability of loan products without increased default risk of exposure to losses
- collaborations between business stakeholders supporting credit products and the quantitative and IT staff responsible for implementing the systems and models for making credit decisions

The STATISTICA Decisioning Platform addresses these needs by:

- combining predictive analytics, flexible rules and rules management, and leveraging non traditional data sources using techniques such as text mining
- providing an integrated platform in which the predictive models to support a large number of loan products are managed, with access control, versioning, and history to eliminate the time-consuming and error-prone process of replicating conditional scoring models and rules for deployment
- delivering a scalable platform that can score large data volumes efficiently, and perform real-time scoring in milliseconds while referencing sequences and combinations of rules and conditional scoring (predictive) models, as well as logic for returning reason codes
- empowering quantitative analysts with an integrated, flexible workbench of predictive analytics, text mining, data transformations, and graphical data analysis for optimal credit risk modeling

The STATISTICA Decisioning Platform is the only enterprise predictive analytics and decision management software platform:

- for use across all departments and roles (analysts, adjusters, investigators, IT engineers, LOB managers and workers, etc.)
- that combines predictive analytics, text mining, and rules to cover all aspects of evaluating and scoring claims, customers, and applicants. Text mining is for making use of adjuster notes, medical reports, and other documents. Rules integrated with predictive models translate predictions into business decisions.

“The bottom line is we need rules combined with predictive analytics and text mining to gain more profitable customers and decrease our risks. Some credit decisions are completely driven by rules. Other processes take the output from predictive models and translate them into credit decisions and other offers. Also, rules govern our compliance with relevant regulations. In STATISTICA Enterprise, rules and models for different product lines are easy to manage, and applications are scored in less than a second!”

Senior VP of Risk, Major European Bank
Delivering Predictions to the Right People

The STATISTICA analytics suite of applications efficiently delivers accurate predictive models for improved decision making throughout an organization. There are several components to make this happen:

User Personalization

Within an organization, personnel with differing skills and responsibilities collaborate to achieve an outcome. STATISTICA includes user personalization, so that differing user groups see the data, capabilities, user interfaces, options, and workflows specific to their areas of responsibilities. For example:

- Quantitative analysts and risk modelers have access to the full suite of powerful predictive modeling options.
- Business analysts define and verify the business rules and conditional scoring logic for which predictive models to apply to which processes/products, and for when/how to override the predictions from the models due to other business rules or regulatory guidelines.
- Lines of business workers see results and recommendations specific to their objectives and business processes.
- Risk analysts can create and schedule the standard model evaluation, population stability, and other reports required to monitor and document the quality of the decisioning process.

Model Management

Within an organization, there are many areas for applying predictive analytics. For example, predictive models can deliver recommendations for different products, departments, customers, and so on. STATISTICA Decisioning Platform makes it easy for the quantitative analysts who are responsible for the verification, deployment, and ongoing management of these models. Models are managed in one central location, on the STATISTICA server. Models are managed with versioning and history so that analysts have complete control over which version is approved and meets regulatory requirements.

Deployment to Production

A typical bottleneck for efficient utilization of decisioning flows to support risk management is the time required to deploy models to the production environment. In the STATISTICA Decisioning Platform, this process does not require any reprogramming of data preprocessing steps, rules logic, or prediction models. Instead, entire decisioning flows, and the references to rules, models, and scoring logic that they contain, can be moved from the development to the test environment, and then to the production environment via simple point-and-click operations by authorized users. Decision flows and the components they reference are managed as versioned templates and objects that can be moved across environments and do not have to be recreated or reprogrammed.

Scoring

In all the ways in which predictive analytics can be utilized, there are different business needs that require different types of scoring of data. In some cases, real-time scoring is needed, such as when the information on an insurance claim changes or when an instant credit decision is required. In other cases, a set of data, in a file or database or data warehouse, needs to be scored offline. For example, a set of prospective customers is scored based on their propensity to purchase a new product so that customer service personnel will focus time and attention on the prospects most likely to become profitable customers.

Featured StatSoft Products

**STATISTICA Enterprise** – The server platform for delivering analytic and business intelligence applications to departments and divisions within the enterprise via centrally-managed queries, analysis templates, report templates and dashboards.

**STATISTICA Text Miner** – A large selection of retrieval, pre-processing, and analytic/interpretive mining procedures for unstructured text data and web pages. Optional specific solution packages.

**STATISTICA Data Miner** – The most comprehensive selection of data mining solutions for the enterprise, with powerful model development and deployment (solution publishing) tools and database/data warehouse integration. Optional solution packages for specific applications and domains.

**STATISTICA Live Score** – The server platform for integrating predictive modeling into business processes and line-of-business applications through highly-efficient, real-time scoring via predictive models managed using STATISTICA Data Miner and STATISTICA Text Miner.
Decision Rules

Predictive analytics requires both predictive modeling and decision rules. The two work hand-in-hand. An organization’s quantitative analysts can use the predictive modeling and data mining approaches in the STATISTICA platform to detect and capture patterns in their historical data. Those patterns have a business context. For credit risk modeling, decision rules subset and transform the applicant’s data into segments of interpretable, transparent customer groups, and policy (post-scoring) rules automate the interpretation of the risk prediction into specific next steps for the application, as well as reason scores to communicate back to the applicant.

By incorporating STATISTICA’s new models, profits can increase 80% or more with improved acceptance rates, while defaults remain at approximately the same level.