TransUnion®

TRANSUNION WHITE PAPER

Automated Decisioning for Consistency and Performance

Introduction

In today's credit environment, competition is strong. The economic environment is challenging. Lenders must be able to make fast, well-informed decisions to build, maintain and manage their credit portfolios effectively.

Business rules—policies, processes and procedures—are the means by which companies make decisions and support them every day. Timely and optimal response can be difficult, however, when business managers with the responsibility for business rules do not have immediate control of defining and managing the rules. In general, managers have had to depend on developers to translate their business expertise and insight into decision-making rules.

Automated decisioning solutions with business rule management are the answer. This new era of decisioning platforms puts the power in the hands of business managers—not developers—to create and implement business rules directly. The relationship between business policies, the rules that support them and the effect on the business are made explicit. These decisioning platforms enable business managers and other professionals to access the information they need, then to specify, validate and implement the appropriate business rules.

This makes it possible to respond faster and more efficiently to competitive challenges, new market opportunities and regulatory changes. The benefits of automated decisioning are increased flexibility and agility, enhanced consistency and objectivity, reduced costs and improved profitability.

This white paper provides an overview of decisioning and explains the importance of automated decisioning solutions. It also presents questions lenders should ask themselves about their current processes and the value of aligning with a strategic partner with the experience and tools to help them set, meet and exceed their goals.

Consumer credit decisioning and automation

As credit grew in the twentieth century (see below), banks dominated the financial services industry. Typically, they relied on large mainframe-based information technology (IT) departments to handle most of the data processing, including any automation used in credit decisioning. Mainframes provided the processing power and storage needed to handle the large volumes that drove the credit industry in many markets.

As increasing numbers of people began using credit, delinquencies increased and the need shifted from handling large volumes of data to also making smarter decisions. This spurred a new industry of service providers that concentrated on decisioning solutions. New tools were developed. One of the most important new tools was credit scoring.

A credit score is the result of advanced analytical models that take a "snapshot" of a consumer's credit report and translate it into a three-digit number representing the degree of risk. While most scoring models use credit report data, more customized models may use data from multiple sources, including a company's own internal data repositories.

Credit scoring provided an effective way to assess risk, but it was difficult to implement because scoring models typically used new, complex algorithms. In addition, IT departments—already burdened with the growing financial services industry—had difficulty keeping pace with the advances in decisioning. Many companies began to rely on these new niche service companies to help them implement the new credit decisioning. In time these service companies took on much of the decision processing and also began providing both software and application services solutions.

Advanced decisioning software solutions complemented the larger mainframe-based institutions, and also allowed more companies to get into the profitable credit business. Server technology and flexible computer languages helped lower the cost of entry and also enabled companies to differentiate themselves by creating smarter, agile and more complex decisioning strategies. Complex decisioning capabilities provided greater precision and controls that allowed companies to achieve end-to-end automation. This reduced the number of transactions requiring manual review and freed resources to concentrate on only those items that truly needed further human evaluation and intervention.

As the industry matured, the credit manager or business analyst became more knowledgeable about and confident in the new decisioning techniques. The business user needed to be able to adjust quickly to changing markets. The decisioning-solution companies responded with new user interfaces and Web applications that allowed more intuitive control of complex decisioning rules. This eliminated the need for securing IT resources for common rule modifications, allowing organizations to respond more rapidly to the changing markets.

Today, financial institutions range in size and implementation level when it comes to managing their decisioning process. While some are adept at implementing decisioning solutions, most rely on the expertise of companies specializing in credit-decisioning solutions. As scoring and decisioning techniques improve and more data sources are available, the expertise and resources of these service providers are relied upon more and more.

A short history of consumer credit decisioning

1920	1930	1940	1950	1960	1970	1980	1990	2000
1920s to early 1970s Manual processes and systems used in all consumer credit decisioning					**Early 1970s** Introduction of credit scoring in banking community **1970s** Mainframe technology used to implement first automated decisioning systems	**1980s** Expansion of companies specializing in decisioning solutions	**Early 1990s** Shift from volume processing to making smarter decisions **Late 1990s** Development of specialized decision engines	**Early 2000s** Optimization techniques automated into decisioning **2000-2005** Business analyst control of decisioning rules **2004-2009** Expansion of data sources

The key components of decisioning

Business rules

As the use of decisioning systems grew, so did the need to manage and automate complex and precise business rules. IT departments met these challenges. But competition in the credit market and improved methods of analysis triggered the need to change criteria often—quickly testing the resources of IT departments. This led to the development of software and Web-based user interfaces, which separated the management of the business rules from the core application code.

These systems reduce or eliminate the need for IT resources for criteria management and put this control into the hands of the business user. Advanced decisioning systems with business rules management use business vocabulary—not traditional programming code. Typically, tools such as templates, tables or graphical trees and flows help the business user translate their rules into something they and the system can understand. Today advanced decisioning solutions provide the business user with easy Web access to these applications.

Data

Credit history provided by credit bureau agencies remains the most widely used source of data for risk management solutions. In major markets, positive and negative data is available for a majority of the population. Traditional account acquisition solutions rely on credit reports, but as lenders seek out those new to using credit or those to whom credit has not been available before, other data sources are sought. In addition, emerging markets and specific types of risk assessment require different data sources. Other data sources may include checking, savings and money market accounts; debit bureaus; consumer demographics; vehicle, business, fraud, verification and utility records; and companies' own positive and negative files, as well as account data.

Account and Customer Relationship Management solutions rely heavily on internal databases that give a more holistic view of the account. In the early days of account acquisition, data on the application form itself was commonly used in subjective criteria as well as scoring models. In time, this applicant-provided data was recognized as subject to falsification and therefore unreliable.

Today's systems need to obtain data from all these sources and also be able to correctly interpret and aggregate the information so that it can be used effectively in the decision process. It is also important that data be as current as possible. Current modeling techniques require precise calculations of the data and, in many cases, combinations of data from multiple sources. Systems need the ability to determine dynamically which data sources are needed for the individual decision, and as more data sources become competitively priced, lenders require the flexibility to establish business rules for when to use these new, additional data sources.

Data characteristics

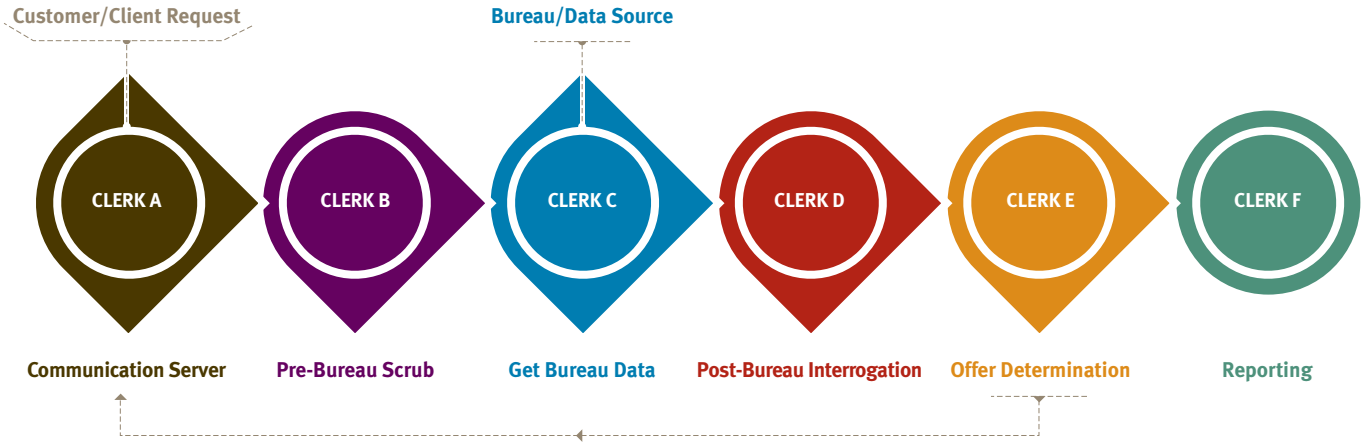
Credit scoring models assign statistical weights to certain types of data, such as outstanding-debt-to-available-credit ratios, number of late payments and debt-to-income ratios. Mathematical algorithms are devised to produce a simple three-digit numerical score.

The same types of data are also used in subjective (non-scoring) criteria policy. Often, when scoring is used, the creditor will supplement scoring with business policies. Creditors may have specific policies that do not allow new accounts for consumers with certain types of delinquencies. This could override a decision based on scoring alone.

As credit bureau data has become more sophisticated, so have the data characteristics defined from that data. For example, instead of looking at just one account recorded on the credit bureau that is more than 60 days past due, one might want to look at revolving accounts that have been more than 60 days past due within the past 12 months, and which are not disputed by the consumer. Decisioning systems need to be able to easily define these types of characteristics—typically, across multiple credit reporting bureaus. If creditors are using more than one bureau, it is important that any characteristic be defined the same by all bureaus, while taking into account the nuances and variations used at each bureau. This is known as leveling the characteristic.

How automated decisioning replaces manual processing

The components of the decision-making process are separated to allow for flexibility and scalability in an advanced decisioning solution.



MANUAL PROCESS	AUTOMATED PROCESS
Clerk A gets an application from the customer, opens up a loan application file and fills in all of the available information (input data, processing instructions, routing, etc.) before passing the work order on to the next clerk.	The automated decisioning system's Communications Module receives an inquiry, opens up a transaction and fills in all of the available information (input data, processing instructions, routing, etc.) before passing the transaction to the decision engine.
Clerk B reviews the loan application and the routing information contained on the form or references the procedures associated with that type of loan. Clerk B then routes the loan application to the next clerk in the appropriate department.	The decision system interrogates the transaction and looks up processing instructions stored in the database. The instructions are added to the transaction and the work is passed to the next process.
Clerk C gets the additional data (that is, bureau data) needed to perform additional interrogation and adds the information to the loan application before passing it on to Clerk D.	Communication programs build up the inquiries to any third-party data sources, access the network and call out and wait for the response, then process the returned data.
Clerk D performs interrogation of the additional data, updates the work order with the results and passes it on to Clerk E.	Calculations are made using the application data and any returned data.
Clerk E determines what offer will be made, if any, and communicates with Clerk A to get the response to the client.	Business rules are applied to the transaction. It is determined if the transaction needs to be routed to gather any additional data. When no additional information is needed, business rules are applied and an offer is determined and returned to the inquiry system.
Clerk F specializes in producing the required back-end reporting requirements.	All data is logged in the data warehouse. Extract files are created and delivered for analysis. Reports are built and published.

In addition, it is critical that, to the extent possible, compliance with various regulations be incorporated into the automated decisioning system. This often requires that particular regulatory characteristics be defined and interpreted from each data source. For example, if a consumer has reported to a bureau that she has been a victim of fraud, a characteristic must be created to recognize that this information is recorded by the bureau. This enables the automated decisioning system to handle it appropriately, clearly flag it to the creditor and incorporate this condition into its workflow when appropriate.

Analytics

Analytics and credit scoring have become principal components of decisioning systems. Soon after decisioning systems began to automate existing manual processes and credit data became more centralized and available, credit scoring became an integral part of the decision process. Credit scoring is a powerful tool for creditors, providing a way of making faster, more granular and more consistent decisions. Creditors can set score "cut-off" levels to automate the decision-making process, thereby eliminating much of the risk of human error and subjectivity, and can fine-tune their offers to accommodate for variations in applicant risk profiles.

The first credit scoring models were custom-developed for individual financial institutions. Many smaller or newer companies did not have the required historical and performance data to create models, and modeling companies looked to meet the needs of the expanding market by creating generic models. Generic models were based on large pools of data typically gathered from a specific industry and/or geographic area and tailored to a particular goal (such as acquisition, account risk management or collections management). Credit scoring models help expand access to multiple credit markets. This lowers the price of credit and reduces delinquencies and defaults, thereby helping stimulate economic growth.

Many companies today, including the major credit bureaus, have analytics groups that specialize in analyzing data and researching new modeling techniques to develop new models that meet the requirements for broad, industry-specific, as well as customized needs. Building and using the models in the decisioning process is just a part of the analyst's role.

There is a continuing need to verify or validate that the models and the business rules in place are performing the desired outcome. The feedback loop of performance data is paramount to the success of any decisioning solution. Making decisions for point-in-time risk assessment is important, but making the right decision at the right time is crucial to meeting long-term objectives. Decisioning systems are not complete without the reporting and analysis tools needed to create this feedback.

But tools are not enough—reports mean nothing without the expertise to interpret and analyze them properly for setting adjustments to criteria. As scoring models and business rules incorporate more and different data and utilize special complex algorithms, the specialized expertise and experience of a consultative partner is critical in interpreting and aggregating the data to achieve the desired outcomes.

Account lifecycle

Decisioning systems were first developed to answer one question at acquisition: Should this application for a new account be approved or not? Over time lenders identified other areas where decisioning could help. In addition, with more and more accounts on the books, it became important to manage those accounts more effectively. Common account management examples include managing credit limits, providing incentives for account retention while letting unprofitable (or less profitable) accounts close, and offering additional products and services to those accountholders likely to accept and be profitable.

It also became important to utilize new strengths in decisioning systems to manage early and late-stage delinquent accounts, and collections and recovery—whether the decision was to sell to collection agencies or to manage them internally. On the front end, marketing and prescreening efforts also took advantage of the new decisioning tools.

In the typical financial institution, each of these areas of the business were managed and run independently, using their own programmed systems with their own decisioning solutions. Having multiple decisioning solutions distributed about the company not only meant redundancies and unnecessary costs, but also kept departments from sharing valuable information with each other.

Business rules started making their way out of the core applications and into specialized decision engines that could run in multiple environments. This concept became popular at a time when Customer Relationship Management (CRM) initiatives started. Companies began to realize the importance of a more holistic view of their customers. How did the initial information—gathered when the customer opened the account—relate to their later performance? Did we know that an existing customer was searching for an additional service or product?

Decisioning solutions today provide automated decisioning that can operate in conjunction with, but independent of, core application systems. These systems are built to interface and integrate with multiple in-house systems easily and quickly.

How decisioning benefits a wide range of industries

Speed is the standard today, including the demand for instant credit decisions. Along with an increase in the speed of making decisions, systems have become more sophisticated and are able to automate many processes that once required manual evaluation. These improvements ran parallel with the increased need for decisioning in other key areas.

Once used for only credit card acquisitions, the need for this automated decisioning capability spread quickly to other areas of the customer lifecycle. While many areas used to only occasionally run batch processes to gather some additional account data, these systems are evolving into real-time systems that are also able to handle the unique demands of each area, including new data sources, new decisioning techniques and new scoring models.

Decisioning and Customer Relationship Management

Decisioning at work today

Banking
- Decisioning expanded outside of credit cards

Retail Financing

Commercial Financing

Collections
- Prioritization of calls—using manual resources efficiently
- Development of payment programs and matching treatments with the right customer

Feedback processes and automation of successful programs

Wireless and Utility Companies
- Setting proper rates
- Matching correct payment programs to the right customer

Insurance Companies
- Setting coverage rates
- Determining policy renewals

Healthcare

Rental Industry

With these improvements and the increased awareness of decisioning systems, many different industries have ventured into using credit decisioning. Collection agencies have found that decisioning solutions enable them to optimize treatment strategies and focus their resources where they are likely to be most profitable. Some of these strategies include prioritizing the use of manual resources on those most likely to pay, matching payment programs to the right customers, and automating programs that prove successful.

The banking and retail industries traditionally only used automated decisioning for their large credit card market, but new decisioning techniques including industry and product-specific scoring models have allowed them to broaden their use of decisioning solutions into student lending, automotive loans, overdraft services and more.

Wireless and utility companies began to realize the benefits of automated decisioning and risk management products. By utilizing credit data and decisioning, they are now able to reduce risk by setting rates and creating appropriate payment programs for their customers. Similarly, the insurance industry has employed decisioning solutions in setting coverage rates and determining policy renewals. Service providers have created simple point-of-sale decisioning solutions to meet the needs of these new markets.

With advancements in decisioning systems, these industries have improved their ability to increase portfolio volume profitably, to reduce the risk of new account defaults, to manage accounts before they become delinquent, and to manage delinquent accounts with reduced resource costs and increased recovery.

Consumers have also benefited. Lenders have been able to take advantage of more precise decisioning techniques and therefore set more favorable pricing for low-risk consumers. At the same time, underserved higher-risk consumers (who may have been turned down for products in the past) now may enjoy new opportunities for credit. Companies are better able to set appropriate offers knowing that they can effectively monitor and manage high-risk accounts using advanced decisioning.

Decisioning solutions as a strategic resource and best practice

In today's challenging economic environment and with the many advances in decisioning systems, it is more important than ever to look at decisioning as a strategic resource. Organizations need to find the right strategic partner that can meet today's challenges with the right plan and tools for future growth and opportunities. There are many factors to consider.

It is important not to set risk management strategies based on short-term gains or based solely on traditional strategies that have worked in the past. In an ever-changing economic environment, criteria strategies must be constantly evaluated and managed appropriately.

Account management involves more than just determining whether an account is "good" or "bad". The account may look "good", but is it profitable? What may look like a "good" profitable product to some may not be the best product for the consumer being targeted. If it is not "good" to the consumer, competitive products may lead your customer elsewhere. Today's strategy may be to grow the portfolio, but limiting decisioning capabilities to concentrate on one area will, at most, be effective in the short term.

Growth in the overall portfolio also means a growing need to manage non-performing and delinquent accounts. Do you have the correct policies in place for handling the growth in all areas? How delinquent does an account need to be before assigning resources and new strategies to manage it? Can your solution be easily adapted

to take advantage of new data that is available? The availability of a wide variety of scoring models, data sources and decisioning platforms—with a range of user-defined options—can make it difficult to choose the right solution for answering these questions.

Above all, organizations will want to take a close look at their current processes. Many lenders may not be well positioned for the future and have no way of measuring the efficiency of what they are doing now. They need to be able to tell how much their current decisioning processes cost and the profitability of their accounts. In addition, IT resource constraints often contribute to the overall costs of accounts and should be weighed in selecting a decisioning solution.

This makes it important to consider an Applications Service Provider (ASP)-based system. Application processing is hosted in a data center and accessed via secure connections. This supports secure, decentralized access to centralized information. It eliminates the need for purchasing, installing, updating and maintaining software applications on every PC and server at multiple locations.

These are some of the key considerations for an automated decisioning solution. The right strategic partner can help provide the analysis and consulting needed to select and implement the right decisioning solution for a business. The best decisioning solutions provide customizable tools that fit all areas of the customer lifecycle and share components and data, and provide feedback to promote continuous improvements to the overall process.

Criteria for selecting an automated decisioning solution

Lifecycle decisioning for multiple applications across multiple lines of business*:

- Pre-screening
- Cross-selling
- Acquisitions
- Retention
- Account review/management
- Collections
- Fraud and identity management
- Integration with CRMs or other customer touchpoint management

Flexible, automated data access and decisioning platform designed for a business policy manager

- Ability for business policy managers to make rule changes quickly and easily without relying on IT developers
- Automated functional and regression testing
- Ability to test new rules with a "what-if" or "champion-challenger" facility
- Management reporting to assess the effect of policy changes—preferably through a dashboard or ad hoc reporting for deeper understanding

Distributed ability to securely manage and review transactions

- Ability to review individual transactions in sufficient detail to fully view the application, data, calculated analytics and the business rules that did not pass
- Ability to override or make the final decision for transactions needing attention

Sophisticated decision engine capabilities

- Complex scoring algorithms
- Business rules to manage access to multiple data sources
- Calculation of characteristics from multiple data sources needed for business policy and scoring algorithms

Graphical tools for business policy managers and analysts to quickly and easily implement rules

- Matrix facility
- Decision tree functionality
- Rules parameterization
- Ready access to rules management (for example, via the Web)

Workflow design and management

Business-critical reliability

- Technically robust and secure
- Cost-efficient
- Ability to expand to meet future needs—to grow from simple to sophisticated
- Ability to quickly add new data sources
- Built-in monitoring
- 24/7 product support

Tools and systems for differentiation in target markets

- Easily build and integrate engaging solutions for rich media portals and mobile markets
- Support multiple languages and currencies

Ability to facilitate preparation and distribution of documentation

*Services and products may not be available in all markets.

555 West Adams Street
Chicago, Illinois 60661
USA

transunion.com/business