Assessing the Financial Credibility of Institutions and Enterprises

Comarch Rating System
Introduction

Risk calculation and management are critical issues for every financial institution, who are often forced to take decisions based on incomplete information. Accurate risk assessment - making losses less likely – is therefore acutely important when selling financial and insurance products.

Credit risk arises where a debtor (business partner, borrower) fails to meet the terms and conditions of a contract, leaving the lender exposed to the risk of financial loss. This threat mainly affects banks, but also insurance and factoring companies. In practice, it is impossible to fully eliminate risk from the work of financial institutions, and this makes competent risk assessment an even more vital undertaking. One can apply a broad range of methods or a set of more or less restrictive strategies to achieve this.
The gravity of the risk management issue in the financial sector is amply demonstrated by its prominent position in the New Basel Capital Accord document (Basel II), in which the Basel Committee sets out guidelines for the unification of credit and operational risk management procedures. The provisions of Basel II have also influenced the development of advanced financial risk calculation methods.

Accurate assessment is one of the most important issues in financial risk management, and one of the ways to achieve this is by analysis of financial credibility before issuing a decision. When, however, this method is augmented by systematic monitoring of the borrower’s financial condition throughout the repayment period, it becomes an even more powerful and attractive tool.

The Comarch Rating System is the financial credibility assessment tool Comarch is now delivering. Its aims are to aid the analyst in assigning the institutions under consideration for the right exposure category (depending on the prevailing economic and financial situation). It is also possible to set the rating for a given transaction in relation to its type, the quality of the guarantees, its length, its sensitivity to currency and interest rate changes and the current level of commitment.

The risk assessment analysis is based on the risk assessment rules established by the financial institution concerned. These are transferred to the system as rating policy, so enabling automatic ratings setting with assignment to an exposure category for the institutions concerned. As the analysis progresses, financial and other information (quantitative and qualitative) continues to be gathered on the institution concerned.

Apart from its capacity to calculate ratings, the Comarch Rating System enables limit and sub-limit settings for the institutions under assessment, and also performs a variety of simulations to determine the effect changes in rating policy or any other factors will have on the institution’s assessment. This functionality can also be used to investigate the influence of economic events on the institution’s assessment and, therefore, on the customer portfolio (‘what-if’ analysis).

The system also possesses the functionality enabling risk assessment department personnel to continuously monitor and assess portfolios. To do this, a set of analytical reports is used that makes essential data available in synthetic form.
Benefits

- **Improved financial credibility assessments** – rating policy is precisely defined and automatically activated, meaning better quality for the ongoing assessments and reduced risk of becoming involved with unreliable institutions.
- **Time and money savings** – decision-making time is cut because the results are easily interpreted and a recommended decision is produced that is attuned to the risk assessment model implemented.
- **Better quality credit portfolio** – the principles for assessing financial credibility are made uniform, meaning decisions are more objective and impartial.
- **Basel II Compliance** – Comarch Rating System supports activities conducted according to New Capital Accord guidelines.
- **Flexible Rating Models** – based on a defined process and on financial and qualitative forms, the system enables any financial risk assessment model to be implemented.
- **Diversity of uses** – Comarch Rating System enables the following calculations:
  - rating – an assessment of the institution’s financial-economic situation
  - transaction rating – an assessment of the transaction
- **Calculation of Limits** – limits for institutions can be set using the algorithms implemented and depending on the rating assessment.
- **Rating simulations** – ‘what-if’ analyses for simulating the influence of a wide range of factors on the performance of a given rating model.
- **Wide-scale reporting** – the use of logical architecture enables the generation of diverse reports based on any data available in the system.
- **Use of external financial data sources** – integration with the Pont Info database.
- **User-Ergonomics** – the flexible WEB interface provides a comfortable and convenient work environment.
- **Productivity and Scalability** – the use of the most advanced technology delivers system productivity expansion, and the capacity to regulate this is achieved by matching to the hardware infrastructure.
- **Easy integration with other systems** – Comarch Rating System communicates with other systems using ESB buses (via WebServices, SOAP, XML-over-HTTP, JMS/MQSeries, RMI). This enables rapid integration with credit (e.g., Comarch Credit Process Management), factoring, security or document management systems.
Rating as a Process

The rating assessment and the limit calculation are conducted in stages. Their sequence, authorization to complete and information scope are defined as a process (workflow). The first step in implementing the Comarch Rating System involves defining the processes that will be the reference points for the risk assessment.

Deploying a workflow engine unifies the rating assessment process with the user automatically conducted through the successive steps. When the process attributes are properly defined, it is possible to determine the conduct of the workflow and who will be authorized to perform the actions involved. In addition, each of the steps is assigned a form or group of forms stocked with the relevant data. This ensures that the order of the actions is established and maintained, and that this conforms with the regulations and procedures of the financial institution concerned. In addition to enabling data storage forms in the customer context, the system does the same for the workflow/process context.

Example Workflow for Rating
The Comarch Rating System is constructed in two parts: Business Administration and Business Operation. The first of these configures the parameters and processes for the rating, and is aimed at administrators, whilst the second, which has several modules dedicated to executing different aspects of the rating process, is for the end users: consultants, analysts and managers.

**Business Administration**
- Creating forms (the forms’ templates can be exported to .xls files)
- Definition of financial indicators used in the financial assessment
- Setting the criteria to be used in the qualitative and additional-factor assessments
- Definition of tables (matrixes) used when allocating an indicator or criterion to a specific range and assigning points
- Implementation of the calculation procedures, using the definition elements referred to above

**Business Operations**
- Selects and displays the customer for whom the rating is performed
- Choice of period for which the data is to be in operation
- Entry of data essential to the calculations (completing forms)
- Generating indicators within the framework of the financial indicators
- Assigning points for the qualitative or additional-factor criteria
- Setting the customer or transaction rating
- Assigning the customer to the appropriate exposure category (according to the economic-financial criterion)
- Calculating limits and sub-limits for the customer in question
- Portfolio analysis
- Rating assessment simulation
- Investigations into the influence of economic events on the customer’s financial condition
- Generation of specialist reports
Functionality

The fundamental aim of Comarch Rating System is to classify customer risk by setting ratings based on the data supplied. But the system does so much more. It is also possible to calculate the sub-limits that are so vital in these classifications. These aims are achieved in accordance with procedures stipulated by the financial institution and defined by them in the system.

Comarch Rating System is designed to operate in line with the Basel II guidelines, and this is shown (in a list that is not exhaustive) in the following capabilities:

- Multi-period report and statement comparison
- Credit report freezing
- Several assessment models can be defined for a single customer group or profile
- Storage of all rating models (policies) used in the past
- Storage of all versions of the elements defined in the model
- User activity logging for the system
- Tracking and confirming corrections to the rating models
- Access to external financial data matched to the sector concerned (integration with the Pont database)
- The double confirmation principle is in operation

Specifying the form type

Attaching the global data-entry form
Rating Assessment Components
The major elements the system uses to conduct rating assessments are financial indicators, qualitative measures and additional factors. All of these are entered into the system via appropriately designed data sheets. As Comarch Rating takes an innovative approach, it features as many as four types of data sheet:
• Those directly linked to the rating assessment process
• Those directly linked with the customer

Financial Indicators
The financial indicators are calculated according to defined algorithms, using data taken from the financial forms. The individual forms can be categorized according to the type of accounting, legal personality or other criteria. The financial forms delivered as standard within the license terms are implemented in accordance with Polish (PSR) and International Accounting Standards.

The system can define any number or type of financial indicators from financial liquidity, asset use, capital structure and financing, through profitability and company market value. All variables concerning financial indicators, including the exact algorithms used to calculate them, are established at the analysis stage.
Qualitative Criteria
These provide a platform for producing qualitative analysis of the institution concerned. In this case, the major aspects not covered in the financial forms that may have an influence on the overall customer assessment are taken into consideration. This may concern all aspects of the enterprise’s operations, and also encompass the specifics of the sector under analysis. The points awarded reflect the most significant features for the financial institution of its cooperation with the enterprise under consideration.

The following are examples of qualitative criteria provided for by the system:
• The size of the enterprise measured according to the number of employees
• The length of time the enterprise has been established in a specific market
• The quality of management

Additional Factors
The final components that may be employed in a rating assessment are the additional factors. Usually, these are not taken into account directly when granting a customer rating. They may, nevertheless, assist the system or analyst in borderline cases and act as an information source when setting ratings for transactions.

The following are examples of additional factors:
• Length of commitment
• Risk level of sector
• The currency of the loan
**Setting the Rating**

Work with Comarch Rating centers on the completion of properly prepared forms. Their appearance – the number of bookmarks and the compulsory fields – are defined within the Business Administration of the system. The end user completes the fields in one location within the system, and there is no need for serial logins, while analysts can add data from the successive periods (quarters, years). It is also possible to add historical and forecasting data to the system. Furthermore, the system supports data import from .xls files (corresponding with the current versions of the forms in the system) to the target forms. This delivers noticeable benefits to analysts, who have a faster and more ergonomic environment to work in as a result.

Financial and qualitative assessments are conducted using the data entered onto the forms. Firstly, calculations are performed on the indicators that have been defined. Next, points are assigned for the individual elements. Where a transaction rating is set, additional factors can be brought into the analysis to add analytical perspectives. The sum of the points enables the system to establish an exact rating and exposure category (based on procedures defined earlier).
Financial Limits

Within the terms of the rating process, it is also possible to set limits and sub-limits. Then, based on the data entered into the system, the indicators calculated and the rating that has been established, a limits grid is prepared for the customer. This is established in the context of the product or group of products available at the financial institution. Thanks to this, it is possible to automatically calculate the optimal level of commitment for a given customer in the context of several products. These may include global limits, turnover limits or investment limits.

The mechanism under consideration is based on multi-dimensional decision matrices, which are defined in the Business Administration. Where it is essential to apply more advanced algorithms, the limit-setting process can be supported by Comarch Scoring, which is a decisions engine implemented in the system.

Automating limit and sub-limit calculations influences the unification of procedures within the framework of this process in all decision-making branches of the company making the loan. This means less time is spent deciding credit limits.
Rating Simulation
The Comarch Rating System supports ratings simulation, which is achieved by four separate sub-modules:

- **Target group definition** – makes use of the reporting functionality to select the right customer group to run the simulation on
- **Policy definition** – the user can create a new policy (stipulating the form, directory and matrix versions) and establish the guiding or calculation parameters
- **Input-data definition (manual mode)** – the user can manually alter both the financial and qualitative input data
- **Input-data definition (automatic mode)** – provides advanced functionality for form configuration enabling connection between the elements used in the financial and qualitative assessments. This functionality makes it possible to introduce additional variables relevant to the financial data. Thanks to this, the user can define a form that, for example, indicates how changes in the price of fuel influence enterprises and their general rating assessment.

Deploying rating simulations enables fast and straightforward analysis of how, and to what extent, customer rating assessments are changed by economic events. The rules editor makes possible the activation of algorithms that reveal relationships between factors, including those concerning the detailed financial data supplied by customers. The system utilizes the modified data to execute a full rating procedure. This provides insight into how specific changes in the market could influence the customers’ financial condition and the ‘What-if?’ analysis. This approach is one of the key elements in customer portfolio management. By providing data on potential changes in portfolio structure caused by external or internal factors, it can deliver positive portfolio management outcomes.

In addition to this, the simulator can automatically test new policies without requiring all of their parameters to be entered into the system. Conducting a suitable simulation is an easy way to evaluate several policies with different parameter sets, and so select the one that best meets the needs of the financial institution.

**Selection of Simulation Type**

**Result of Automatic Simulation**
Portfolio and Credit Risk Management
Comarch Rating is equipped with a module for managing credit risk that tracks trends present among the customers on the system. Because of the large amount of data the system needs to process if the portfolio is to be properly managed, a data warehouse, which enables multi-dimensional analyses of the financial institution’s credit portfolio structure, is the best tool.

The module’s main role is the generation of specialized reports informed by data supplied by a specialized data warehouse with a properly designed structure. In this case, it is also possible to implement data warehouses from scratch, or to use those that already exist.

Comarch defines and supplies the appropriate reports with the modules. The module comes with the report templates that will be of most use in managing credit risk and portfolios. It is also possible to define additional reports at the customer’s request.

Example report templates defined by Comarch for the rating system:
- Enterprise and transaction rating
- Exposure according to risk category
- Probability of rating change over time
- Product-specific risk
- The influence of changes in rating policy on the portfolio structure
Integration with the Credit System
The Comarch Rating System is a solution designed to form an integral part of a credit system. In one of its several implementation modes, it is offered as a module in Comarch Credit Process Management, which is a comprehensive credit-process support solution.

Integrating the Comarch Rating System with a credit system enables more precise and versatile verification of institutional customers within a single process. The Comarch Rating System can load customer data directly from the credit system, so that the analyst does not need to enter the same data several times over. Furthermore, the solution delivers an accelerated and automatic assessment of the customer’s loan repayment capacity, whilst cutting the time taken to consider requests for credit, which also boosts the service quality offered.

The Comarch Rating System can also drive the credit granting process by, for example, making it impossible for a credit decision to be made in favor of an institution whose rating is too low. This works to prevent abuses of the customer verification process, making decisions more objective and impartial. The system can also support the customer-monitoring process during the repayment period when performing periodical rating assessments may provide advance warning of a customer’s declining financial and economic situation.

The integration with the credit system we have described here shows how the Comarch Rating System can be applied in a broader context. With consistently implemented SOA (Service Oriented Architecture), it is possible to integrate this solution with other systems, so that the Comarch Rating System can be deployed in insurance and factoring, as well as at other institutions and enterprises where accurate credit rating analyses are mission-critical components of the operation.
Comarch is a leading Central European IT business solutions provider specializing in forging business relationships that maximize customer profitability while optimizing business and operational processes. Comarch’s primary advantage lies in the vast domain of knowledge accumulated in and applied to our software products. These products incorporate highly sophisticated IT solutions for businesses in all vertical sectors. Comarch has a multinational network of offices employing over 2800 highly-experienced IT specialists in Europe, the Middle East and the Americas.