

SCORECARDS FOR SMEs



Qarar's SME Scorecard services assist lenders in managing their credit risk and lending decisions for small and medium businesses (SMEs). Services include tools and analysis for approval of new credit, assessment of portfolio risk, and calculation of regulatory capital.

Features

- Scorecard Development
- Decision Engine
- Pricing Tools
- Dashboards
- Validated and Automated Calculations
- Credit Policy Review
- IT Support



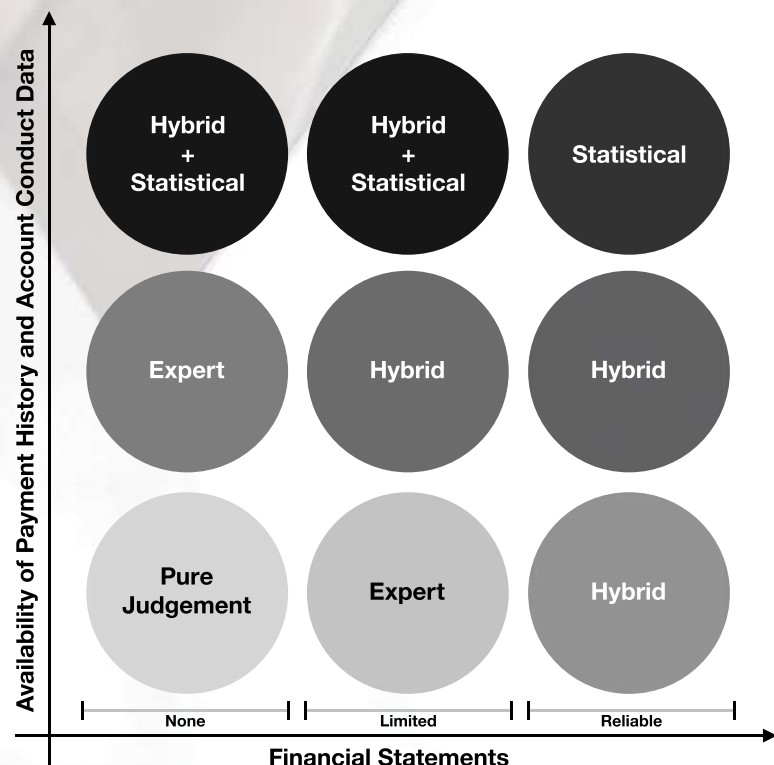
Scorecards + Decisioning Tools for Best Practice SME Credit Risk Management

1. Our Practical Approach

Qarar assesses the model development approach by analysing the optimum modelling requirements. We can then determine if the approach is data-driven (empirical/statistical) or expert-based.

The analysis is based on:

- Datapoint availability
- Number of defaults
- Length of the historical data
- Type of data available



2. Building SME Scorecards

The scorecards are created by exploring a wide array of influencing factors. Data sources can range from credit bureaus, bank account management and collections data, market studies, and economic research portals.

	ASSESSMENT	MAIN DRIVERS	REASONS
01	FINANCIAL ASSESSMENT	<ul style="list-style-type: none">▸ Liquidity▸ Debt Service Ability▸ Operations Efficiency▸ Capital Position	Qarar follows definitions adopted by major financial institutions for financial ratio analysis.
02	BUSINESS QUALITATIVE ASSESSMENT	<ul style="list-style-type: none">▸ Company Positioning▸ Business Risk▸ Owners and Management Quality▸ Stability	Key for SME Assessment - the smaller the company the greater the emphasis on these factors.
03	BEHAVIOURAL ASSESSMENT	<ul style="list-style-type: none">▸ Payment History▸ Payment History with Other Banks▸ Early Warning Signals	Account movement and behaviour (overdraft account for SMEs with credit history, credit and savings account (CASA) account for SMEs with/without credit history), trade transactions and limit utilisation, payment history with bank and other lenders.
04	INDUSTRY ASSESSMENT	<ul style="list-style-type: none">▸ Industry Cycle and Forecast▸ Industry Risk	Accurate reflection of the particular challenges and risks that an SME would face due to the nature of the industry in which it operates.
05	RELATED PARTIES	<ul style="list-style-type: none">▸ Assessment of Owner(s)▸ Assessment of other Parties with Economic Interdependency	Additional information sources to complete the comprehensive assessment.

3. Model Development (Empirical)

1. Data Collection, Validation, Preparation and Segmentation

Review of screening questionnaire, extraction of required data, QC and validation of data, segmenting the book to determine number of scorecards required

DATA VALIDATION

- Reconcile raw data
- Receive supporting Data dictionary
- Receive validated Bureau data from Client WH/AP

EXCLUSIONS and TARGET VARIABLE DEFINITION

- Exclusions waterfall
- Determine definition of default DPD cut-off and observation window based on past dues and rollbacks

SEGMENTATION and DEVELOPMENT SAMPLE DETERMINATION

- Segmentation schema on which models can be built
- Split train and test data sets
- Modelling sample for each segment

2. Model Development

Shortlist candidate variables, fit model on training data

VARIABLE SELECTION

- Fine classing
- Coarse classing
- Calculate information value and weight of evidence to shortlist significant variables

MODEL FITTING

- Develop a Known Good Bad model (KGB) for all segments*

PERFORMING REJECT INFERENCE**

- Perform reject inferencing
- Develop All Good Bad models (AGB) for all segments

3. Model Validation and Documentation

Perform validations to check model performance on training and test data sets, discuss model and get approved

MODEL TESTING

- Perform validations to check model performance
- In test sample validation, OOT and sub-population validations

MODEL APPROVAL

- Models presentation and stakeholder sign-off on all models

MODEL DOCUMENTATION

- Documentation of scope, assumptions and limitations, development approach, and validation results

*Most models are based on logistic regression methodology. However, depending on the data and problem statement, other approaches such as Linear Regression, Random Forest, Gradient Boosting etc. can be tried.

**Applicable to application scorecards

4. Scorecard Monitoring and Maintenance

An important cornerstone in Qarar's Model Management framework.

We create a model monitoring dashboard providing metrics to assess the effectiveness of the models, and examine:

- Accuracy of the characteristic being implemented
- Validity of the score-to-odds relationship
- Score and characteristic shifts over time

Qarar runs tests that cover various areas such as population stability, characteristic stability, model discriminatory power (KS/Gini/AUROC), calibration suitability and granularity (homogeneity, normality, chi-square test, HHI). As part of the framework, we provide a model validation standards document that sets out:

- Model materiality matrix setup rules.
- Minimum accepted thresholds for model performance based on conducted test.
- Linking model performance output to actions that should be taken by managements.

The DecisionSmart Difference

Supporting the decisioning process, Qarar's DecisionSmart is a dynamic scoring, segmentation and decision engine that can be deployed to provide scores and decisions across the credit lifecycle.



- **Robust And Proven**
Multiple installations across MENA region
- **Built For Scale And Complexity**
Unlimited hosting of scorecards and policy rules
- **Automation**
Remove manual underwriting and credit appraisal
- **Business-Managed Platform**
Minimal IT involvement



Contact Qarar

For more information on how Qarar's Scorecards for SME can assist in your SME lending decisions please connect with us:

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