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This article provides an overview of all the stages involved in *designing, developing* and *deploying* a general Credit Scorecard in a business context. The approach follows the general lifecycle of Risk Model development adapted to the specific requirements of Credit Risk.

The Six Stages of the Credit Scorecard Lifecycle

Activities can be grouped in six broad stages. Depending on the business and regulatory context^[1] some stages might be more extensive than others or potentially bundled as one stage. These stages are not specific to credit scorecards but are common across wider ranges of risk models

Stage 1: Business Requirements and Preliminary Considerations

- This stage defines the scope and objectives of the credit scorecard implementation and operation. The outcome of this stage may include a formal *Model Origination* or Requirements Document, a *Project Plan* a Credit Scorecard Design process, and/or other detailed documentation depending on the organizational governance of the entity introducing the credit scorecard.
- An indicative list of Credit Scorecard Business Requirements

Stage 2: Credit Scorecard Development

- This stage captures the main technical activities (Data Collection, Data Cleansing, Exploratory Data Analysis, Risk Data Review, Model Development, Expert Analysis, Model Documentation etc.) that produce a complete credit scorecard Model Specification
- A detailed breakdown of Credit Scorecard Development

Stage 3: Credit Scorecard Validation

- The model validation stage (sometimes bundled or iterated with the previous development stage) provides a more or less formal review of the Stage 2 developed scorecard. When scorecards are used in regulated / audited context activities at this stage may *reject* the scorecard specification produced in Stage 2, offering concrete reasons and possible recommendations
- Indicative list of Credit Scorecard Validation elements

Stage 4: Credit Scorecard Deployment

- This stage includes the Production Implementation, Acceptance Testing, User Training and ongoing operation of the scorecard. The outcome is an operating instance that is processing actual client data, is (where applicable) embedded in the Credit Rating System of the organization and is used in related risk / management processes under the umbrella of Credit Portfolio Management
- Credit Scorecard Deployment

Stage 5: Credit Scorecard Monitoring

- Scorecard performance is monitored throughout its active (operating) life to identify pathologies such as Model Decay.
- Typically there is a Model Monitoring Report that captures the essential performance indicators (including also historical development)

Stage 6: Model Adjustment / Decommissioning

- **Model Adjustment or Decommissioning.** If the monitoring report or other current information suggests so, the scorecard might need to be re-estimated using additional data or decommissioned. In case of re-estimation / redevelopment the six stages must be repeated but now on the basis of the pre-existing implementation.

Issues and Challenges

Developing and using quantitative risk models such as credit scorecards has many potential pitfalls:

- Executive (Senior Management) buy-in and understanding of key issues may be limited
- Is resource intensive (time, money, expertise, project management support)
- May have impact on existing (legacy) processes and systems
- Has a very diverse range of possible implementations with varying degrees of suitability
- May suffer from data scarcity and/or Data Quality issues
- May suffer from Model Decay and other structural challenges to ongoing model use
- Check also the The Zen of Modeling for a high level list of general modelling pitfalls that apply to risk models more generally

NB: The scope of this entry is considerably broader than the subset of steps involved in the purely quantitative (Model Development) process. Building a credit scorecard need not even involve a statistical process if the domain does not support it (complexity, lack of data etc.)

See Also

- How to Build an SME Credit Scorecard
- Credit Scoring with Python
- Retail Credit Scorecard

References

1. USAID: A handbook for developing credit scoring systems in a microfinance context

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