**Model Acceptance Criteria for PD, LGD and EAD Models**

The new PD model was developed to address all the previous action items and Regulatory requirements (i.e., SAMA IFRS 9 Guidelines).

Measures are computed and evaluated to address two main aspects of model performance: model coefficient stability & business intuition and model goodness of fit (risk differentiation). Where tests in the model standards are not used, or thresholds are breached, explanations are expected to justify why this is deemed acceptable.

Based on the development testing samples from risk differentiation and risk quantification perspectives, the model is expected to be assessed against statistical significance tests and overall performance at the model level. The overall model performance metrics and diagnostical tests for PD, LGD, and EAD are summarised below.

**Probability of Default (PD) Models**

1. **Predictive Power:**
   * **Coefficient of Determination (R^2):** Measure the proportion of variance in observed Default Rates explained by the model.
   * **Mean Absolute Error (MAE) and Root Mean Squared Error (RMSE):** Assess the accuracy of PD predictions.
2. **Calibration:**
   * **Goodness-of-Fit Tests:** Use statistical tests to compare predicted and observed Default Rates.
   * **Back-testing:** Validate the model using historical PD data.
3. **Segmentation:**
   * Ensure that the model appropriately segments different types of exposures, reflecting differences in Default Rates across segments.
4. **Stress Testing:**
   * Test the model under various stress scenarios to ensure it performs well under adverse conditions.
5. **Regulatory Compliance:**
   * Adhere to guidelines from the Basel Committee on Banking Supervision (BCBS) and SAMA for PD estimation and validation.

**Acceptance criteria for Loss Given Default (LGD) and Exposure at Default (EAD) Models.**

1. **Predictive Accuracy:**
   * **Mean Absolute Percentage Error (MAPE) and Root Mean Squared Error (RMSE):** Evaluate the accuracy of LGD and EAD predictions.
   * **Out-of-Sample Testing:** Validate the model on data not used during model development.
   * **Back-testing:** Validate the model using historical LGD data.
2. **Conservatism:**
   * Ensure that the model provides conservative estimates of exposure, especially under stressed conditions.
3. **Segmentation:**
   * LGD - Ensure that the model appropriately segments different types of exposures, reflecting differences in recovery rates across segments.
   * EAD - Segment exposures appropriately to reflect differences in usage patterns and potential future drawdowns.
4. **Utilization Rate Models:**
   * For revolving exposures, validate the utilization rate models that predict the proportion of available credit lines that will be drawn down at default.
5. **Regulatory Compliance:**
   * Follow guidelines such as those from BCBS/SAMA and ensure compliance with regulatory standards for LGD & EAD estimation and validation.

**General Acceptance Criteria for All Models**

1. **Documentation:**
   * Comprehensive model development documentation, including data sources, methodology, assumptions, and validation results.
2. **Governance:**
   * Independent validation by a separate risk management or audit function.
   * Periodic reviews and updates to ensure the model remains relevant and accurate.
3. **Transparency:**
   * Clear explanation of the model’s mechanics, assumptions, and limitations.
4. **Management Approval:**
   * Approval by senior management and, where applicable, the board of directors.