马上消费金融

Mashang Consumer Finance Co., Ltd.

风控决策科学部

Decision Science Department, Risk

模型验收流程

Model Acceptance Process

|  |  |
| --- | --- |
| **模型编号 Model No.** |  |
| **模型开发方**  **Model Development Team** |  |
| **模型验证方**  **Model Validation Team** |  |
| **业务需求方 Business Requirement Team** |  |
| **验证结果**  **Validation Result** |  |
| **验证日期 Validation Date** |  |

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## 模型开发资料提交（开发方提供）

I. Submission of model development materials (by development team)

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|  | **提交资料清单列表**  Checklist of material for submission | **备注**  Notes |
|  | 1. 模型开发任务定义表   Definitions of model development tasks | 附件一  Appendix 1 |
|  | 1. 模型开发及验证报告   Model development and validation report | 格式不限，但必须覆盖下述要点  The format is not limited, but the following main points MUST be included |
|  | * 概述/Overview | 简要说明*模型开发任务定义表*中所述模型业务背景及目标等信息。  Brief descriptions of model business background and target, etc. described in Definitions of Model Development Tasks. |
|  | * 模型设计/Model design | 观测期和表现期定义、排除规则、好/坏/不确定定义、数据准备和细分分析等内容。  Observation period and performing period definitions, exclusive rules, good/bad/uncertainty definitions, data preparation and segmentation analysis |
|  | * 模型开发/Model development | 样本抽取、变量处理、模型优化标准及最终模型变量选择  Sample selection, variable processing, model optimization standards and final model variable selection |
|  | * 模型表现/Model performance | 多重共线性检查、变量相关性检验、二维变量报告、AUC、Gini、KS等指标  Multicollinearity check, variable correlation check, two-dimensional variable report, AUC, Gini, KS, etc. |
|  | * 模型对比优劣分析/ Strength and weakness analysis by model comparison | 进行两个或两个以上模型对比分析，并说明入选模型优势  Compare 2 and more models for analysis, and describe the strength of selected model |
|  | * 模型验证/Model validation | 对比跨时间样本和建模样本的KS、Gini，模型分数、模型变量PSI等  Compare KS, Gini, model score and model variable PSI between cross-time sample and modeling sample |
|  | 1. 建模样本表   Modeling sample table | 附件二  Appendix 2 |
|  | 1. 变量与样本获取代码   Variable and sample acquisition code | 至少需包含：原始变量获取以及衍生变量代码；建模样本获取代码；目标变量获取代码。（代码有详细运行说明和注释）  Consists of at least the following: original variable acquisition and derived variable codes; modeling sample acquisition codes; target variable acquisition codes. (with detailed code running descriptions and comments) |
|  | 1. 建模完整过程代码   Full modeling process code | SAS  Python  R 其他/Other*(请注明/Please specify)*  至少需包含：变量预处理流程代码（缺失值、异常值处理等）；变量筛选逻辑代码；模型建立与调优代码；入选模型代码；模型指标分析代码。（代码有详细运行说明和注释）Consists of at least the following: variable pre-processing codes (missing value and abnormal value processing); variable selection logic codes; model construction and optimization codes; selected model codes; model index analysis codes. (with detailed code running descriptions and comments) |

附件一：模型开发任务定义表 附件二：建模样本表

Appendix 1: Definitions of Model Development Tasks Appendix 2: Modeling Sample Table

 

## 代码重跑与结果复现（验证方操作）

II. Code Rerun and Result Reproduction (by validation team)

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|  | **清单核查**  **Checklist for validation** | **备注**  **Notes** |
|  | 1. 代码有详细运行说明、代码注释   Detailed code running descriptions and code comments |  |
|  | 1. 代码完整覆盖开发资料结论与要求内容   Full coverage of development materials’ conclusions and requirements with codes |  |
|  | 1. 代码能正常运行，无错误，无警告或仅有少数警告   Normal running of codes, no error, no warning or few warnings |  |
|  | 1. 代码在训练集与验证集上输出与*模型开发及验证报告*所述一致   Consistent output of codes on training set and validation set with that described in Model Development and Validation Report |  |
|  | 1. 代码结果输出与*建模样本表*提交结果一致   Consistent code result output with that delivered in Modeling Sample Table |  |

## 模型技术评估（验证方提出问题问卷，开发方回答）

III. Model Technology Evaluation (questions by validation team and answers by development team)

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| 模型技术评估问题  Model Technology Evaluation Questions | | |
| **问题类别**  **Question Type** | **问题内容**  **Question Content** | **回答**  **Answer** |
| 模型定义相关问题  Model definition related questions |  |  |
|  |  |
| 模型设计相关问题  Model design related questions |  |  |
|  |  |
| 方法论相关问题  Methodology related questions |  |  |
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| 模型评估相关问题  Model evaluation related questions |  |  |
| 模型运用（策略）相关问题  Model utilization (strategy) related questions |  |  |
| 其他问题  Other questions |  |  |

## 模型业务效果评估（验证方做数据策略验证，业务需求方做最终评估）

IV. Model Business Performance Evaluation (data strategy validation by validation team, final evaluation by business requirement team)

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|  | **评估流程**  **Evaluation Process** | **操作人员**  **Executor** |
| 1 | 独立新的跨时间样本验证  New cross-time sample for validation | 验证方  Validation team |
| 2 | 结合业务策略进行决策模拟  Decision simulation through business strategy | 验证方  Validation team |
| 3 | 形成模型验证报告并提交业务需求方  Composition of model Validation report and submission to business requirement team | 验证方  Validation team |
| 4 | 业务需求方进行最终评估  Final evaluation by business requirement team | 业务需求方  Business requirement team |