

**PREDICTION OF NON-PERFORMING ADVANCES IN
NON-PERSONAL CUSTOMERS OF SRI LANKAN
BANKING INDUSTRY**

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Abstract

The recent years the banking sector facing multiple storms, with rising non-performing advances facing pressure even before the pandemic. The economic downturn of the last two years due to poor economic growth, the Easter attack impact, and COVID-19-related concerns were shocks for the banks and as well as other financial institutions. However, banks have managed to successfully during turbulence times, implementing various strategies and managing risks prudently with increasing impairments.

As such there was a need to manage the increasing non-performing advances prior to its classification. Hence, banks are investing considerable amounts of money to implement various systems to identify the portfolios which were affected and also to be affected portfolios. Accordingly, the use of machine learning related projects are highlighted as to make use of the innovative technological advancements.

Hence, this research paper discussed in predicting the possible non-performing advances. Accordingly, using several machine learning algorithms including ensemble classification, predictive models are developed, and the performance of each model is evaluated to identify the most suitable classifier technique.

The model developed using Gradient Boosting Machine is performed well with an accuracy of 97%. Further, the variables which have higher impact on the status of the facility also identified by using feature selection techniques.

Furth more, the hyper parameter tuning has held as future work since it may be useful to finetune the models with higher accuracy and fast computational performances.