

ABSTRAK

PERBANDINGAN MODEL *CREDIT SCORING* DALAM MENENTUKAN *PROBABILITY OF DEFAULT* PADA KREDIT PEMILIKAN RUMAH (STUDI BANK X)

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Penggunaan *Loan Origination System* (LOS) dan *credit scoring* sudah umum digunakan oleh lembaga keuangan (bank) dalam meningkatkan efisiensi tahapan proses pengajuan kredit dan mengelola risiko. Dengan *credit scoring* bank dapat memprediksi kemungkinan gagal bayar calon debitur. Terdapat beberapa teknik pemodelan *credit scoring* yang umum digunakan, antara lain regresi linier, regresi logistik, *decision tree*, *neural network* dan *genetic algorithm*.

Bank X adalah salah satu bank penyalur Kredit Pemilikan Rumah (KPR) dan dalam prosesnya telah menggunakan teknologi *Loan Origination System* (LOS) yang dilengkapi dengan fitur *credit scoring model*. Fitur *credit scoring* yang digunakan lebih sebagai *second opinion* bagi petugas analis kredit dan bukan sebagai alat pemutus layak tidaknya calon debitur diberikan kredit. Teknik pemodelan *credit scoring* yang digunakan oleh Bank X adalah regresi logistik.

Seiring dengan berjalan kompetisi dalam pengajuan kredit, kecepatan dalam analisis dan pemberian keputusan kredit menjadi nilai lebih dalam memenangkan persaingan. Pemilihan model *credit scoring* yang tepat yang sesuai dengan karakteristik data perusahaan dapat membantu meningkatkan kecepatan dalam pemberian keputusan dan diperoleh debitur yang berkualitas. Dari hal tersebut penulis menganalisa apakah model *credit scoring* regresi logistik yang digunakan Bank X memiliki tingkat keakuratan yang lebih baik jika dibandingkan dengan teknik yang lain, yaitu *neural network* dan *decision tree*. Penelitian analisis ini dilakukan atas informasi yang tersaji pada data pengajuan KPR baik subsidi maupun non subsidi periode 2016-2017.

Atas analisa yang telah dilakukan, diperoleh kesimpulan bahwa:
Untuk KPR Non Subsidi pemodelan menggunakan metode *neural network* mempunyai keakuratan lebih baik dari model lain dalam memprediksi jumlah debitur lancar. Sedangkan untuk prediksi debitur tidak lancar, model regresi logistik mempunyai tingkat keakuratan yang lebih baik. Sedangkan untuk KPR Subsidi, regresi logistik dan *neural network* mempunyai tingkat keakuratan yang sama baik dalam memprediksi debitur lancar.

Kata kunci: credit scoring model, regresi logistik, neural network, decision tree

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In increasing the efficiency of the stages of the credit application process and managing risk the use of the Loan Origination System (LOS) and credit scoring has become a necessity by financial institutions (banks). With credit scoring, banks can predict the probability of default on prospective borrowers. There are several credit scoring modeling techniques commonly used, including linear regression, logistic regression, decision tree, neurak network and genetic algorithm

Bank X is one of the banks that provide Home Ownership Loans (KPR) and in the process has used the Loan Origination System (LOS) technology, which is equipped with a credit scoring model feature. The credit scoring feature that is used more as a second opinion for credit analyst officers and not as a breaker is feasible or not a prospective debtor is given credit. The credit scoring modeling technique used by Bank X is logistic regression.

Along with the running of competition in credit submission, the speed in the analysis and the giving of credit decisions become more value in winning the competition. The selection of the right credit scoring model that fits the characteristics of company data can help increase the speed of decision making and obtain qualified debtors. From this, the writer analyzes whether the logistic regression credit scoring model used by Bank X has a better level of accuracy compared to other techniques, such as neural network and decision tree. This research analysis was conducted on the information presented in the data on the submission of both subsidized and non-subsidized mortgages for the 2016-2017 period.

For the analysis that has been done, it can be concluded that: for Non-Subsidized Mortgages modeling using neural network methods has accuracy better than other models in predicting the number of debtors smoothly. While the prediction of debtors is not smooth, the logistic regression model has a better level of accuracy. Whereas for Subsidized Mortgages, logistic and neural network regression has the same level of accuracy in predicting current debtors.

Keyword: *credit scoring model, regresi logistik, neural network, decision tree*