

Evaluasi AI Bias and Fairness dalam Akuisisi Agen Penjualan Perbankan (Agen BRILink-Bank Rakyat Indonesia)

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Abstract

Building loyalty with customers by taking ownership of companies or assets (acquisitions) to become parties (agents) of the bank is called agent acquisition. Important features are considered in the acquisition process. This research was conducted with the BRILink dataset which is the implementation of the banking sales agent acquisition at Bank Rakyat Indonesia (BRI). The large number of BRI customer data, caused a diversity of data that lead to unfair agent acquisition results. Bias detection and mitigation algorithm is needed to achieve fairness. AI fairness 360 (AIF 360) is a toolkit that provides bias detection and mitigation algorithms. The bias mitigation algorithm in AIF 360 is divided into three processes, namely: reweighing and learning fair representation at the pre-processing stage, prejudice remover and adversarial debiasing at the in-processing stage, and calibrated equalized odds and reject option classification at the post-processing stage. The output is a comparison of the calculation of bias detection with disparate impact (DI) and statistical parity difference (SPD) before and after mitigation. The reweighing algorithm produces an average DI of 0.8% and SPD of 0.102% which indicates successful mitigation but the reduce the AUC value. In contrast to reweighing, adversarial debiasing and reject option classification can mitigate bias while maintaining the AUC value. Conducting this research can help the acquisition of BRILink agents more fairly.

Keywords: agent acquisition, bias, fairness, mitigation, BRILink.
