Penerapan data mining dalam manajemen dana tabungan: Studi kasus PT Bank XYZ = Application of data mining in funds management of saving account: A case study of PT Bank XYZ / Endro Yuniaryo

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Abstrak

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Dana pihak ketiga (DPK), yaitu dana yang dihimpun bank yang berasal dari masyarakat, perlu dikelola secara efektif dan efisien dengan mempersiapkan strategi penempatan dana. Salah satu strategi dalam penempatan dana tersebut adalah menyalurkan kembali kepada masyarakat dalam bentuk pinjaman untuk DPK yang diprediksi akan mengendap dalam jangka waktu yang cukup lama dan menyimpan DPK dalam bentuk kas, cadangan, atau investasi jangka pendek untuk DPK yang diprediksi tidak akan mengendap dalam jangka waktu yang cukup lama menurut definisi bank. Penelitian ini menggunakan data mining untuk memprediksi porsi DPK yang mengendap dari masing-masing nasabah berdasarkan profil demografi dan transaksinya. Penelitian dibatasi pada produk tabungan, dan data yang digunakan untuk proses data mining adalah data profil nasabah dan data transaksi produk tabungan.

Metodologi penelitian ini menggunakan pendekatan CRISP DM. Dan metode data mining yang digunakan adalah teknik decision tree untuk prediksi, analisa klaster untuk proses diskritisasi label kelas yang akan digunakan dalam klasifikasi dan menggunakan analisa RFM (Recency, Frequency, Monetary) untuk menyederhanakan nilai pada atribut-atribut yang terkait dengan transaksi tabungan. Metode klasifikasi menggunakan algoritma C4.5 dan analisa klaster menggunakan algoritma k-means dan menggunakan WEKA sebagai data mining tools. Hasil dari penelitian ini adalah model untuk memprediksi porsi dana mengendap dari nasabah. Dari hasil evaluasi menggunakan perhitungan sensitivity, spesitivity, dan accuracy menunjukan model yang berhasil dibangun memiliki keakuratan yang cukup baik dalam memprediksi porsi dana mengendap.

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ABSTRACT

Third-party funds (TPF), which is funds raised from the public, need to be managed effectively and efficiently by preparing a strategic placements. One of the strategies is by distributing loan from TPF that are expected to settle for a long period of time and store in the form of cash, reserves, or short-term investments for TPF that are predicted will not settle within long period based on definition from the bank. In this study data mining is used to predict portion of TPF that will settle for certain period of each customer based on the demographic profile and transaction history. The scope of this study is only for saving account product,

and this study uses the customer profile data and transaction data of savings products for data mining process.

The research methodology in this study using the CRISP DM approach. Decision tree classification technique is used for prediction, cluster analysis method is used for discretization process of class labels to be used in the classification and use RFM analysis (Recency, Frequency, Monetary) to simplify the value of the attributes associated with the transaction of saving account. C4.5 algorithm is used for classification and cluster analysis using k-means algorithm and WEKA is used as data mining tools. The results of this study is the model that can predict portion of TPF that will settle for a certain period. The model evaluation by sensitivity, spesitivity, and accuracy calculation shows that the model has successfully built a good accuracy in predicting of TPF that are expected to settle for a long period of time. , Third-party funds (TPF), which is funds raised from the public, need to be managed effectively and efficiently by preparing a strategic placements. One of the strategies is by distributing loan from TPF that are expected to settle for a long period of time and store in the form of cash, reserves, or short-term investments for TPF that are predicted will not settle within long period based on definition from the bank. In this study data mining is used to predict portion of TPF that will settle for certain period of each customer based on the demographic profile and transaction history. The scope of this study is only for saving account product, and this study uses the customer profile data and transaction data of savings products for data mining process.

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