

ABSTRACT

Intense competition in the financial institutions, require BMT (Baitul Maal Wat Tamwil) to manage customer optimally. Knowing loyal customers will help companies determine the right marketing strategy. This study aims to determine customers' deposits and potential loan customers, customers who are loyal to the company. Potential customers is determined by customer segmentation. The case studies in this research that in one of the BMT in Yogyakarta. The method used is DM-CRISP (Cross Industry Standard Process for Data Mining) through business process understanding, understanding the data, the data preparation, modeling and evaluation. Data mining techniques that clustering techniques with Fuzzy C-Means algorithm and the models used for segmentation is fuzzy RFM (Recency, Frequency and Monetary).

The results of this segmentation divides into 2 clusters on customer deposits and 3 clusters on loan customers. The best number of clusters based on the Modified Partition Coefficient (MPC) and the Partition Entropy (PE). At the customer data obtained customers' deposits by 180 customers dormant b (71,43%) in cluster 1 and dormant f customers (customers are not potential) as much as 72 customers (28.57%) in cluster 2. In loan customer with third cluster consist of 101 customers (34.59%) of good customer 8 in cluster 1; 2 regular customers at cluster 2 which consists of 82 customers (28.08%) and good customer 3 (potential customers) at cluster 3 with 109 customers (37.33%).

Keywords : customer segmentation, Fuzzy C-Means, data mining, clustering, fuzzyRFM

INTISARI

Persaingan yang ketat dalam lembaga keuangan, mengharuskan BMT (Baitul Maal Wat Tamwil) untuk mengelola nasabah secara maksimal. Mengetahui nasabah yang loyal akan membantu perusahaan menentukan strategi pemasaran yang tepat. Penelitian ini bertujuan untuk menentukan nasabah simpanan dan nasabah pembiayaan potensial, nasabah yang loyal kepada perusahaan. Nasabah potensial ditentukan dengan segmentasi nasabah. Studi kasus dalam penelitian ini yaitu di salah satu BMT di Yogyakarta. Metode yang digunakan yaitu CRISP DM (*CRoss Industry Standard Process for Data Mining*) dengan melalui proses *business understanding, data understanding, data preparation, modeling dan evaluasi*. Teknik *data mining* yaitu teknik clustering dengan algoritma *Fuzzy C-Means* serta model yang digunakan untuk segmentasi yaitu *fuzzy RFM (Recency, Frequency dan Monetary)*.

Hasil dari segmentasi ini membagi menjadi 2 *cluster* pada nasabah simpanan. Jumlah *cluster* terbaik berdasarkan *Modified Partition Coefficient (MPC)* dan *Partition Entropy (PE)*. Pada data nasabah simpanan diperoleh nasabah *dormant b* sebanyak 180 nasabah (71,43%) pada *cluster 1* dan nasabah *dormant f* (nasabah tidak potensial) sebanyak 72 nasabah (28,57%). pada *cluster 2*. Pada data nasabah pembiayaan dengan 3 *cluster* diperoleh nasabah baik 8 dengan 101 nasabah (34,59%), pada *cluster 1*; nasabah biasa 2 pada *cluster 2* yang terdiri dari 82 nasabah (28,08%) dan nasabah baik 3 (nasabah potensial) pada *cluster 3* dengan 109 nasabah (37,33%).

Kata kunci- segmentasi nasabah, *Fuzzy C-Means, data mining, clustering, fuzzyRFM*