

ABSTRACT

Company performance is greatly influenced by the ability to manage and analyze transaction data accurately and efficiently. Bank Nagari, a regional government-owned bank in West Sumatra collaborating with UIN IB, faces challenges in managing student transaction data, which is still processed manually. The slow and error-prone data input and recapitulation processes result in inaccuracies and service delays, negatively impacting customer trust and the operational efficiency of the bank. This study aims to design and develop a clustering system for student transaction data between UIN IB and Bank Nagari using the K-Medoids algorithm. The system is implemented using PHP programming language with a MySQL database to enhance accuracy and speed in transaction data processing. The data used consist of student transactions between Bank Nagari and UIN IB. The analysis results reveal three main clusters based on transaction levels: a low cluster with 59 transactions, a medium cluster with 185 transactions, and a high cluster with 105 transactions. This system is expected to provide significant contributions in improving transaction data management and supporting more effective decision-making within Bank Nagari and UIN IB.

Keywords: Data Mining, Clustering, K-Medoids, Data Transaction

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