ABSTRACT

Currently there are 292 Bank Sumut ATM services that have been spread throughout North Sumatra, with a number of transactions that vary in each location. Intense competition among banking companies has made Bank Sumut continue to improve its ATM services so that they can serve their customers well. However, based on the results of evaluations conducted during 2019, it was found that there were unproductive ATM services with a number of transactions <350 each month.

If left unchecked, these conditions will cause losses for companies where operating costs are higher than revenue. And there is waste of money management in the North Sumatra government. For this reason, it is necessary to conduct research on the North Sumatra Bank ATM services which are operational now. So as to maximize existing services and reduce the cost of providing ATM services.

The research conducted aimed to find out what factors influence the performance of ATM services, such as internal factors (security, comfort, cleanliness and infrastructure) and external factors (demographic, geographical and socioeconomic). Furthermore, calculate the level of similarity / dissimilarity between ATM services so that it can be seen the pattern of ATM services that have similarity but different ATM performance. So it is known what actions can be performed using the Recommender System technique.

The test results obtained from the Recommender System technique are used as suggestions for companies to be able to make improvements from existing weaknesses. So that each ATM service can make a good contribution to the company such as an increase in fee base income, a decrease in operational costs and a reduction in the cost of providing ATM services.

Keywords : ATM, *Similarity, Dissimilarity, Recommender System*