



PROJECT REPORT
COMPARISON OF THE APRIORI ALGORITHM AND
FP-GROWTH ALGORITHM TO DETERMINE BUYING
PATTERNS

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ABSTRACT

The rapid advancement of technology today has made it easy for business people to manage large and complex transaction data. Managing transaction data using Association Rule Mining aims to improve sales strategies and help business people determine purchasing patterns. The algorithms used in this research are Apriori and FP-Growth algorithms. This research conducted tests using e-commerce sales transaction data from January 2018 - December 2019. Testing is done with nested data because the problem solved is to compare the Apriori and FP-Growth algorithms in determining buying patterns. In addition to using nested data, this test also uses two different minimum requirements. The first minimum is Support 0.02, Confidence 0.3, and Lift 5 and the second minimum is Support 0.03, Confidence 0.6, and Lift 10. The result of this research is that both algorithms can help determine buying patterns but the resulting buying patterns are different. Because of the results of different buying patterns, of course, the resulting Confidence and Lift values are also different. This is because the ordering of the two algorithms is different, Apriori Algorithm does not need to sort items based on the highest support while FP-Growth involves sorting items. In terms of processing time when using 5000 and 10000 transactions, the process time for FP-Growth is faster. On the other hand, when using 15000 transactions, the process time of Apriori is faster.

Keyword: association rule mining, apriori, fp-growth, buying patterns, support, confidence, lift, process time

