ABSTRAK

Penelitian ini menganalisis pola pembelian di toko sembako menggunakan metode *Frequent Pattern Growth* (*FP-Growth*), yang efisien dalam menemukan *frequent itemset* tanpa pembangkitan kandidat seperti pada algoritma Apriori. Data berupa transaksi pembelian selama tujuh bulan melalui tahap praproses, mencakup pembersihan, penghapusan duplikasi, dan pengelompokan transaksi. Analisis dilakukan melalui pembentukan *FP-Tree*, *conditional pattern base*, dan *conditional FP-Tree*, dilanjutkan dengan pembangkitan aturan asosiasi berdasarkan nilai minimum *support* dan *confidence*. Hasil menunjukkan adanya kombinasi barang dengan nilai *support* dan *confidence* tinggi yang bermanfaat untuk strategi penempatan produk, paket penjualan, dan promosi. Metode *FP-Growth* terbukti efektif untuk mengidentifikasi pola pembelian dan mendukung pengambilan keputusan berbasis data.

Kata kunci: Data *Mining*, *FP-Growth*, *Frequent Itemset*, Aturan Asosiasi, Toko Sembako.

ABSTRACT

This study analyzes purchasing patterns in a grocery store using the Frequent Pattern Growth (FP-Growth) method, which efficiently identifies frequent itemsets without candidate generation as in the Apriori algorithm. The dataset consists of seven months of purchase transactions that underwent preprocessing, including cleaning, duplicate removal, and transaction grouping. The analysis involved building an FP-Tree, conditional pattern base, and conditional FP-Tree, followed by generating association rules based on minimum support and confidence values. The results reveal product combinations with high support and confidence values, useful for product placement, sales packages, and promotions. FP-Growth proved effective in identifying purchasing patterns and supporting data-driven decision-making.

Keywords: Data Mining, FP-Growth, Frequent Itemset, Association Rules, Grocery Store