# ABSTRAK

UMKM F&B yang menggunakan sistem *Point of Sale* (POS) menghasilkan data transaksi yang dapat dimanfaatkan untuk mengidentifikasi pola pembelian pelanggan. Namun, efektivitas algoritma Apriori sangat dipengaruhi oleh penentuan nilai *minimum support* dan *minimum confidence* yang sering dilakukan secara manual sehingga bersifat subjektif. Penelitian ini bertujuan menganalisis pengaruh pendekatan *rule-based threshold* terhadap jumlah dan kualitas aturan asosiasi serta memanfaatkan hasilnya untuk rekomendasi *bundling* dan pengelolaan stok. Metode penelitian mengacu pada CRISP-DM dengan data transaksi DjePOS milik Djejama Street Coffee. Data transaksi diolah menjadi *basket transaction*, kemudian dianalisis menggunakan algoritma Apriori. Penentuan *threshold* dilakukan berdasarkan statistik distribusi *support item*, yaitu *median*, kuartil pertama (Q1), dan *mean*. Hasil perhitungan menghasilkan *minimum support* sebesar 0,011268 dan *minimum confidence* sebesar 0,70. Evaluasi skenario menunjukkan bahwa pendekatan *rule-based threshold* memberikan hasil paling seimbang dibandingkan skenario manual, karena mampu menghasilkan aturan dengan hubungan positif berdasarkan nilai *lift* lebih dari 1 dan beberapa aturan dengan *a* 1,000. Aturan yang dihasilkan dimanfaatkan sebagai dasar rekomendasi *bundling*, promosi, dan pengelolaan stok berbasis bahan baku.

**Kata Kunci:** *association rule mining*, apriori, *point of sale*, *rule-based threshold*, transaksi

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# *ABSTRACT*

*F&B MSMEs using Point of Sale (POS) systems generate transaction data that can be utilized to identify customer purchasing patterns. However, the effectiveness of the Apriori algorithm is strongly influenced by the determination of minimum support and minimum confidence values, which are often manually selected and subjective. This study aims to analyze the effect of a rule-based threshold approach on the number and quality of association rules and to utilize the results for bundling recommendations and stock management. The research follows the CRISP-DM framework using DjePOS transaction data from Djejama Street Coffee. The transaction data were transformed into basket transactions and analyzed using the Apriori algorithm. Threshold values were determined based on item support distribution statistics, including median, first quartile (Q1), and mean. The calculation produced a minimum support of 0.011268 and a minimum confidence of 0.70. Scenario evaluation showed that the rule-based threshold approach provided the most balanced result compared to manual scenarios, producing positive association rules indicated by lift values greater than 1 and several rules with a confidence of 1.000. The generated rules were utilized as a basis for bundling recommendations, promotional strategies, and stock management based on raw material relationships.*

***Keyword:*** *apriori, association rule mining, point of sale, rule-based threshold, transaction*

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