

ABSTRACT

XYZ Supermarket is a retail company located in the city of Bandung. This supermarket sells various kinds of daily necessities, ranging from snacks, drinks, basic necessities, household supplies, cosmetics and others. The problem faced by XYZ Supermarket is that the layout is still not well organized, making it difficult for consumers to find the items they want. Therefore, this layout problem resulted in a decline in product sales and resulted in low impulse buying in 2022 and several months experienced a drastic decline in product sales. The Apriori algorithm is included in the category of association rules in the field of data mining, which aims to find a set of items that frequently appear in a data set. The a priori analysis process involves finding all a priori rules that meet the minimum support and confidence requirements. This research applies the Association Rule Mining technique with the Apriori algorithm in designing product allocation in supermarkets. The research results show that the application of the Apriori algorithm to identify association rules between products at XYZ Supermarket has had a positive impact on increasing Impulse Buying. These findings reveal that strong and relevant association rules help direct consumers to purchase products they may not have previously considered, optimize product layout on supermarket shelves, and increase sales opportunities. Apart from that, the analysis results also recorded a significant increase in impulse buying behavior, with an increase of 38.76%, which overall illustrates that the greater the percentage of impulse buying, the higher the potential for increasing product sales. These findings provide valuable insights for XYZ Supermarket to increase sales efficiency and improve the customer shopping experience.

Keywords - Product allocation, Impulse Buying, Data Mining, Association Rules Mining, Apriori Algorithm