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# MARKET BASKET ANALYSIS OF ADMINISTRATIVE PATTERNS DATA OF CONSUMER PURCHASES USING DATA MINING TECHNOLOGY

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Food is the ingredient that enables people to grow, develop, and achieve. For this reason, food quality and types of food must be considered so that they are safe for consumption and managed. Some plant-based foodstuffs are often processed and consumed by the community, even the most needed in food processing. In this case, the research was carried out using data mining with market basket analysis algorithms to obtain very valuable information to decide the inventory of the type of material needed. Market Based Analysis method is used to analyze all data and create patterns for each data. One method of Market Based Analysis in question is the association rule with a priori algorithm. This algorithm produces sales transactions with strong associations between items in the transaction which are used as sales recommendations that help users (owners) get recommendations when users see details of the itemset purchased. From the results of the trials in this study, it was found that the greater the minimum support (minsup) and minimum confidence (minconf), the less time it takes to produce recommendations and the fewer recommendations are given, but the recommendations given come from transactions that often appear.

*Key words:* apriori algorithms, transaction data, data mining, associations, consumer patterns

## INTRODUCTION

There are certainly very important changes in the conditions in a company, in the environment and outside of the company. The fast and correct taking of business decisions is one solution in order for the company to grow further and adapt to existing changes [1]. Data management for sales transactions is one thing that can be used for decision making. Most transaction data will not be re-used, stored only as an archive and used only to produce a selling report. To increase sales, a supermarket needs important information to increase its sales, the accumulated transaction data must be processed as useful data. These useful information can be used to develop a corporate policy, namely to implement the information in a corporate approach [2]. Supermarkets in their operation sell the public different kinds of fundamental needs in which sales transaction data from their sales operations exist. The data are used only as a reference and only as an archive for sales reports. Many computer branches, including data mining [3] can solve complex problems [4]. Data mining is a process that uses statistical, mathematical, artificial and machine learning techniques to obtain and identify useful knowledge and information from different large databases [5]. Data mining is an algorithm that is used for the treatment of data to find hidden patterns from the data processed. The data processed then produces new knowledge from old data, which can be used in the determination of future decisions [6]. Furthermore, the application of data mining can perform data

analysis of item sales transaction data, which produces several association rules in customer purchasing patterns in supermarkets, which is why it is being implemented [7–9]. The process of searching for hidden patterns of data for each transaction whose previously unknown type of data is stored in databases, data warehouses, or other information storage media is referred to as data mining [10–13]. Several data mining methods are frequently used, including the Apriori Algorithm, which determines the itemset of book loan transactions, which are then grouped into itemset1 table, itemset2 table, support value table, confidence value table, and customer purchasing patterns. Many associated research uses Apriori's data mining branch. Research is one of them [14]. The results of this study show that 142 Association Rules meet the support of more than 10% and 50% confidence, based on sample data, can be applied as a whole. Based on test results using Rapidminer, the product that consumers want is a minimum confidence above 50 percent can be concluded. Based on the test results In addition, the author uses it a priori as easy to operate, the process needed is relatively short, flexible and user-friendly, and uses simple non-statistical principles.

## RESEARCH METHOD

The investigation was done by collecting data on the basis of direct observation on the site in order to clearly identify existing problems. A survey is then conducted to obtain the necessary information or data. Use

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