

## **ABSTRACT**

The mentioned system is designed to the most frequent combinations of the item. It is based on developing an efficient algorithm that performs the best available frequent pattern algorithms on a number of typical data sets. This will help in marketing and sales. The technique can be used to uncover interesting cross-sells and related products. One algorithm from association mining have been implanted and then the best combination method is utilized to find more interesting results. The analyst then can perform the data mining and extraction and finally conclude the result and make the appropriate decision.

Market basket analysis is an important component of the analytical system in retail organizations to determine the placement of goods, designing sales promotions for different segments of customers to improve customer satisfaction and hence the profit of the supermarket. These issues for a leading supermarket are addressed here using frequent itemset mining. The frequent itemsets are mined from the market basket database using the efficient K-Apriori algorithm and then the association rules are generated.

Association Rules is one of the data mining techniques which is used for identifying the relationship between one item to another. Creating the rule to generate the new knowledge is a must to determine the frequency of the appearance of the data on the item set so that it is easier to recognize the value of the percentage from each of the data by using certain algorithms, for example apriori. This research discussed the comparison between market basket analysis by using apriori algorithm and market basket analysis without using the algorithm in creating the rule to generate the new knowledge. The indicator of comparison included concept, the process of creating the rule, and the achieved rule. The comparison revealed that both methods have the same concept, the different process of creating the rule, but the rule itself remains the same.

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<b>Name</b>	<b>Enrollment No.</b>	<b>Signature</b>
Sushen Patidar	(0187CS161111)	.....
Vikram Singh Rathore	(0187CS161122)	.....
Sima Kumari	(0187CS161104)	.....
Durgesh Nandini	(0187CS161037)	.....