RESEARCH ARTICLE

# PREDICTING MISSING ITEMS IN SHOPPING CART USING ASSOCIATIVE CLASSIFICATION MINING

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*Abstract: The primary task of association rule mining is to detect frequently co-occurring groups of items in transactional databases. The intention is to use this knowledge for prediction purposes. So many researches has focused mainly on how to expedite the search for frequently co-occurring groups of items in "shopping cart" and less attention has been paid to the methods that exploit these "frequent itemsets" for prediction purposes. This paper contributes to the latter task by proposing a technique that uses the partial information about the contents of a shopping cart for the prediction of what else the customer is likely to buy, for example, If bread, butter, and milk often appear in the same item, then the presence of butter and milk in a shopping cart suggests that the customer may also buy bread. More generally knowing which items a shopping cart contains, we want to predict often items that the customer is likely to add before proceeding to the checkouts. So this paper presents a technique called the "Combo Matrix" whose principal diagonal elements represent the association among items and looking to the principal diagonal elements, the customer can select what else the other items can be purchased with the currently contents of the shopping cart and also reduces the rule mining cost. The association among items is shown through Graph. The frequent itemsets are generated from the Combo Matrix. Then association rules are to be generated from the already generated frequent itemsets. The association rules generated form the basis for prediction. The incoming itemsets i. e. the contents of the shopping cart will be represented by set of unique indexed numbers and the association among items is generated through the Combo Matrix. Finally the predicted items are suggested to the Customer.*

Full Text: http://www.ijcsmc.com/docs/papers/November2013/V2I11201311.pdf