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ABSTRACT

Data mining is the non-trivial extraction of novel, implicit, and actionable knowledge from large datasets. It automates the detection of relevant patterns in a database. It helps to increase the customer revenue and customer profitability. It provides the structure to record whole customers’ information, detecting important customers systematically, the change of identifying the individual and valuable customers. Data mining technologies are used to analyze the customers’ behavior to form the customer’s profile.

Content analysis has been used to analyze text data. It is used to transform unstructured customer service information into structured customer service data. Adaptive Neuro Fuzzy Inference System (ANFIS) model has been used to discover useful rules about customer feedback and product details.

Customer Lifetime Value (CLV) using Recency, Frequency, Monetary and Term (RFMT) model has been used to find target customers. Customer loyalty is a perfect feature for segmenting customers. Customers’ past purchasing behavior shows their loyalty. The customer is loyal, if he/she purchases more at his/her lifetime, buys products recently and spending more money during the lifetime. But if a customer doesn’t purchase recently, total number of his/her purchasing is low and spent money is low, he/she is disloyal customer. The Analytical Hierarchy Process (AHP) has been used to determine the relative importance (weights) of the RFMT variables. AHP is a multi-goal decision making method. Clustering analysis is useful in locating high value customers. Based on the result of clustering analysis, the number of target customers with high loyalty, high interest, and high amount of purchase can be identified. The proposed model can give accurate customer lifetime value. The long-term, short-term and new customers can be correctly identified by the proposed model.

The expert system’s role is used to capture the knowledge of the experts and the data from the customer requirements, and then, process the collected data. The customer’s satisfaction is determined by using the correlation coefficient. The analysis of customer behavior is used to maintain good relationship with customers in order to maximize the customer satisfaction. Clustering Based Association Rule Mining System (CARMS) has been proposed to analyse the
customer behaviour. Prediction is done using the previous transactions of the customers and data is estimated with the help clustering and association rules. We can extract knowledge from transactions records that aims to improve service levels and increase sales. Customer details were segmented and the association rules have been used to identify customer behavior.

The customers can be placed into one of several clusters according to their interactions with the company. The type of customers can be perfectly identified. The loyalty of customers can also be identified. The profitable customers must be retained.

This research aims to develop a profiling methodology with reference to customer lifetime value, relationship, satisfaction and behavior using data mining techniques. The proposed methodology helps to maximize the customers and identifies a potential loss of customer at the earliest possible point.