CHAPTER 6

CONCLUSIONS AND SCOPE FOR FUTURE WORK

6.1 CONCLUSIONS

This dissertation addresses the issues concerned with segmentation methodology for CRM applications of data mining. Socio-demographic, value and behavioral segmentation methodologies are adopted for prediction analysis over customer data. Encouraging existing customers to spend more not only increases profit margins but also ensures that the relationship with the customer is strengthened and therefore the customer is less likely to default in paying premiums. In this process, existing customers who are likely to buy another product are identified and sales campaigns are targeted to these customers thereby increasing the cost effectiveness of the campaigns.

Socio-demographic and life stage based segmentation methodology give customer preferences towards the products based on their demographic and life stage patterns. Naive Bayes, multilayer perceptron and Bayes net classifier are applied to various segments to observe product preference predictions. Ten-fold cross validation is used to evaluate the performance of the classifiers. The results of naïve Bayes classifier shows improved accuracy in classifying instances of major segments. Naive Bayes classifier produced better results in predicting and guiding the customers of different life segments towards product preferences compared to other two approaches.

Value segmentation generated with life time value model and the decision tree algorithm provide the rules for identification of high and low current value segments. Business clients of service industry like Insurance are in constrain
to their industry. Their special requirements are servicing and claim settlement. Therefore, it is unjustifiable to be evaluated based on RFM model to consider recency and frequency of their buying behaviour of service industry customers. The life time value models are apt for service industry. The life time value model is used to evaluate the value of customers based on their long term relationship with the companies. The findings have diverse implications at the practical level. The diverse findings bring up a number of considerations to branch managers to identify their profitable customers. In addition to understand what measures to take to lift their customers up in the profitable segments. Predicting customer behavior in terms of value segmentation helps companies to build customer loyalty and maximize profitability. Value segmentation methodology based analysis enable resource and investment allocation decisions to be made with greater certainty, and targeted at those customers that will generate the greatest value for the organization and its shareholders.

Policy makers have to both retain high value customers and increase the life time value of the customers inorder to maximize the profits of the organization. Data mining tools with detailed analysis of customer’s preferences and buying habits help organizations to adopt strategies which will attract more customers and thus increase sales.

Clustering, one of the unsupervised learning techniques, is applied on health insurance claim dataset to segment the customers. Clusters revealed the preferences of customers towards the products and factors that influence the total claim. Association rules are employed on working dataset to predict nature of the claim. CBARM model can help to predict future claim values of high risk, medium and low risk policyholders based on past cost data. Data visualization is used to understand the characteristics of clusters.

The effectiveness of the predictive ranking is obvious. With no predictive model and no means to rank customers, there may be loss rather than profit. A careful combination of predictors performs customer prediction better by considering multiple aspects of the customers and their behaviors. Predictive
analysis finds the right way to combine predictors by building a model optimized according to the customer data for the business concerned. The process of combining segmentation with data mining, provides marketers with high quality information on how their customers shop for and purchase their products or services. By combining standard market segmentation with data mining techniques, we can better predict and model the behavior of the segments. Segmentation with the help of data mining from various existing systems is a very important exercise and a must for effective business development.

6.2 SCOPE FOR FUTURE WORK

The research conducted has given rise to the following ideas which need to be investigated in the future course of time:

- Though the attribute selection was done together with the domain expert’s, only limited numbers of all the possible member of attributes were used. However, this researcher believes that better results in different dimensions can be obtained through the use of as many attributes as possible.

- During the last several years, predictive modeling is beginning to show promise in the life insurance industry. There is a need for predictive modeling into insurance pricing and underwriting as well as into price optimization models. As price is found to have a significant impact on a renewal or termination of policies, there is a need for optimal pricing of insurance policies. The prediction of optimal pricing helps in striking a balance between profitability and growth and retention.

- In a world where price wars occur, customers jump ship every time a competitor offers lower prices. Data mining techniques based predictive technique are needed to minimize customer churn, especially with social media.
Mobile CRM (mCRM) has been gaining immense popularity as it helps business users to access customer related information at place where it is actually required. The road map towards acquisition of mCRM capabilities with data mining applications provides a theoretical framework for its implementation in various organizations.