Chapter 6

CONCLUSION AND FUTURE WORK

6.1 Conclusion

The major goal of this thesis was to develop a better method for estimation of software quality. We find the individual as well as combined effect of each metric was well predicted using chi-square test. The use of different evaluation parameters prevents the software engineering community from easily comparing research results with previous works.

Through this dissertation we provide a competent way of prediction of Object Oriented Modules quality. We accept object oriented modularity as the dataset. The data used for the experimentation have class, object, inheritance and dynamic behavior. After that we categorized our framework for selecting the modularity from six different choices. The six different choices are 1-10, 11-20, 21-30, 31-40, 41-50 and > 50. For data qualification chi-square test is performed. With the help of chi-square test only selected modules are selected which is then pass for the further software metric analysis. This testing is based on the object oriented parameters like inheritance, class, reference and run time binding. It will provide us the probability distribution values. Then F-measure (FM), Power (PO) and Odd Ratio (OR) are applied for the quality analysis based on the metrics passed. Then particle swarm optimization (PSO) is applied for finding the optimized threshold value. The results show a better framework which will be able to predict quality metrics.

6.2 Quality Data

Data quality measurement is a critical issue which has been tended to as information warehousing, information mining and data frameworks. It has been concurred that poor information quality will affect the nature of
aftereffects of investigations and that it will in this manner effect on choices made on the premise of these outcomes. An endeavor to enhance arrangement precision by pre-bunching did not succeed. In any case, software metrics inside of groups from preparing sets were firmly corresponded with mistake rates inside of the same bunches on the test sets. This marvel could maybe be utilized to create certainty levels for expectations. The principle and the normal issue that the product business needs to face is the support expense of modern programming frameworks. One of the fundamental purposes behind the high cost of upkeep is the characteristic trouble of comprehension programming frameworks that are substantial, conflicting and incorporated. The fundamental explanation for the above wonders is a result of various sizes and level of courses of action. Decaying a product framework into littler, more reasonable subsystems can help the procedure of comprehension significant. In this manner, it is critical to have techniques that assess the nature of such programmed disintegrations.

6.3Future Work

Software Quality Estimation is an evolving paradigm of software engineering. Still there are several open issues in the field of software quality estimation process which would be interesting to study further. A variety of bunching strategies and metrics are being used among the quality estimation projects. The current study is focused on few of them being used; future work would be carried out on other clustering algorithms for trying better results. The current study has provided the implications of software quality estimation based on K-means clustering and chi-square test; future work would be carried out to address the other quality metrics and statistical estimation techniques that may benefit software developers also. Moreover large dataset can also be taken to explore better result and better solution of software quality estimation. Coupling and Cohesion techniques of
software engineering can also be used with our proposed framework for better re-engineering. More studies similar to this research may be conducted on different datasets to provide the generalized results for software and focus on cost/benefit analysis to determine whether model would be economically possible.