CHAPTER 8
CONCLUSION

There are three main failures of the software industry namely cost overrun (over budget), schedule overrun (late), and failure to meet requirement specifications. These failures are caused by the poor management function that manages the software development project. The poor management increase software costs and reduce the quality of the software product. One of the earlier solutions to these problems is the implementation of software engineering tools and techniques, such as Computer Aided Software Engineering (CASE) Technology and CASE tools.

In the present era of global market, it is hoped that the problem in the software industry can be solved completely and totally as well as producing software products of high quality and high competitive ability. But up to now with the tools only, the software industry is unable to solve these problems completely and totally. The industry has realized that CASE tools are not enough. The software industries experience with CASE tools has proved that the main reason for failing software projects has little to do with technology and tools, and much more to do with lack of process disciplines. Only by creating a disciplined process for software development we can manage and control the quality of the software product. Because of that we need a practical approach for setting up a disciplined and continuously improving software environment.
Currently ISO 9000 is the most popular model for software process improvement with its associated guide ISO 9000-3. But ISO 9000 is focused on the technical system. Technical capability is necessary but not sufficient for success. Software organization is about people and about the way people behave and interact with each other in groups. It is about the attitude, the aspirations and the motivation of people in the work situation. The technical system needs to be integrated with the social system in order to build a quality culture. For that purpose the management must integrate effectively the disciplines of Software Engineering, Quality System Standard ISO 9000-3 and Total Quality Management.

The Interactive Software Assessment Tool by ISO 9000-3 (ISAT903), as a model and tool for assessment of existing quality system software industry, is easy for self usage, user friendly, and is low cost, as a starting point of preparation to apply the quality system standard ISO 9000-3 as well as to get ISO 9001 certification. The most important point in this ISAT903 project is the design of questionnaires.

The three main references used in this questionnaire are ISO 9000-3, Software Engineering concepts and the implementation of Total Quality Management principles.

This tool cannot certify directly the software industry to be ISO 9001 compliant based on the result obtained. Certification is an audit process by a third party with a rigorous inspection and demonstration of the process documentation and practices. At best, the result is to be used as an understanding of general level
of readiness, strength and weakness of the software industry with respect to the ISO 9000-3.

The possible research in the future for ISAT903 is to improve the scoring system of the quality rating by rigorous research on a weighted factor of these 22 quality elements. The best scoring will be achieved by implementing a weighted factor on each of the quality elements. Therefore, the quality rating of software industry will represent the proper quality rating.

Other contribution of this tool to the existing software application are re-engineering of the existing application. Thus maintenance problems and modifications can be solved easily for the future expansion.