CHAPTER 5

SUMMARY OF FINDINGS, SUGGESTIONS
AND CONCLUSION

5.1 INTRODUCTION

The study was aimed at measuring the quality of open source software in Tamilnadu. For this purpose first hand information was collected from 400 open source software development volunteers in Chennai and Coimbatore. The data were collected with the help of a well structured interview schedule in the field. The data thus collected were subdued into suitable tabular form. Appropriate statistical tools like percentage, averages, ranges, standard deviation, chi-square test, multiple regression analysis, multiple discriminant analysis and factor analysis were employed. Based on the results, discussions were made and the key findings and conclusions were recapitulated and presented in the following. A few suggestions have also been recommended.

5.2 FINDINGS

1. It is concluded that the maximum level of quality maintained in open source software among the female respondents.

2. It is found from the analysis that the young aged respondents (below 30 years) have maintained high level of quality in open source software, and it is also proved by the chi-square test at 1 per cent level of significance.
3. From the analysis, it is concluded that unmarried respondents have maintained high level of quality in open source software than the married category of respondents.

4. It is concluded from the analysis that the respondents belonging to joint family have shown high level of quality in open source software.

5. From the analysis, it is concluded that the respondents having certificate / diploma education have maintained high level of quality in open source software. It is also proved by the chi-square test at 5 per cent level of significance.

6. It was learnt that the respondents who working in other industry (such as education, training etc.) have maintained high level of quality in open source software. It is proved by the chi-square test at 5 per cent level of significance.

7. It is divulged from the analysis that the respondents working as software programmers in software development were maintained high level of quality in open source software. It is proved by the chi-square test at 1 per cent level of significance.

8. The analysis reveals that the respondents who gained 6-10 years of experience in IT sector have maintained high level of quality in open source software. It is proved by the chi-square test at 1 per cent level of significance.

9. From the analysis, it is concluded that the respondents who participated in open source software community for their company needs have maintained the level of quality in open
source software. It is proved by the chi-square test at 1 per cent level of significance.

10. From the analysis, it is concluded that the respondents using communication tool were maintained at high level of open source software.

11. From the analysis, it is concluded that the respondents who earn above Rs.10 lakhs income per year have maintained high level of quality in open source software. It is proved by the chi-square test at 1 per cent level of significance.

12. It is divulged from the analysis, that the respondents who earn below Rs.3 lakhs additional income from open source software development activities have maintained high level of quality in open source software. It is also proved by the chi-square test at 1 per cent level of significance.

13. It could be found from the Multiple Regression analysis that the level of quality maintained in open source software project management is positively associated with their Gender, Age Group, Educational Status, Working Status, Experience, Need to Participate, Extent of using open source software and income from OSS Development activities in the study area.

14. Discriminate Function Analysis was applied to the respondents based on the low and high quality maintainers of the open source software. The following factors significantly discriminate the two groups. They are gender, educational status, working status and income from OPSS.

15. From the factor analysis result, it is found that the present study has highlighted the significance of open source software
and volunteer community into four categories. The volunteers were named the first factor as ‘Impact of open source software’. Second kind of volunteers has been named as ‘Operative function of the development’. Third factor was named by the researcher as ‘Efficiency of development’. The researchers named the fourth following factor as ‘Reliability’ which is essential for every volunteers.

16. The Cluster analysis is categorized the volunteers into four categories. These are Quality Assurance Testers (88.6%), Defect Handlers (91.4%), Project Managers (45.8%) and Communicators (94.6%).

17. It was found from the Henry Garrett Ranking Technique that majority of the respondents were opined that the problems “Software should define the Hardware Accessibility List (HAL)” and “Unable to identify the stable release of a software” are the major burning issues in maintaining the quality of open source software.

5.3 SUGGESTIONS

1. The gender wise analysis proved that female respondents have concentrated on high level of quality maintenance than the male respondents. Hence, it is suggested that the male respondents should be positively motivated to show their involvement to maintain high quality maintenance in open source software development.

2. It is diverged from the analysis that the young category of respondents has maintained high quality of open source software development than middle and old age respondents.
Hence, it is suggested that the middle and old aged respondents may be motivated to practice high level of quality maintenance in open source software development.

3. The study reveals that married category of respondents have not maintained high level of quality in open source software development when compared to unmarried respondents. Hence it is suggested that the lethargic attitude of unmarried respondents in quality maintenance should be wiped out and make them with much zeal.

4. From the analysis it was learnt that the volunteers of open source software development belonging to nuclear family is unable to maintain high quality when compare to the members belonging to joint family. Hence it is suggested that nuclear family volunteers should be provided more supporting staff’s to care their personal life. Then only they can concentrate on developing more novel ideas and maintaining high standards in open source software development.

5. The study reveals that the respondents having specialized technical certificate and diploma holders have maintained high level of quality in open source software development than the Graduates and Post graduates. Hence it is suggested that the respondents having Under graduate and Post graduate degree should be given a specialized training in open source software development and ask them to maintain high quality in the above said software Development.

6. The respondents working in the other domains such as Education, Training, etc., have maintained high quality in open source software development than the respondents
working in the IT industry, software development and consultant. Hence, it is suggested that the respondents working in this domain should be motivated to maintain high level of quality in open source software development.

7. Among the various positions occupied by the software professionals, Software Programmers working in Software Development have maintained the high quality in open source software than the Team Leaders and Software Support Engineers. Hence it is suggested that the Team Leaders and Software Support Engineers should be advised to maintain high quality in open source software development on par with software programmers.

8. The respondents who have gained 6 to 10 years of experience in IT sector have maintained high level of quality in open source software development than the respondents below 5 years of experience, 11 to 15 years of experience and above 15 years of experience. Hence it is suggested that an orientation program should be conducted on Quality consciousness for below 5 years of experience respondents as well as the respondents having above 15 years of experience.

9. The need for participating in open source software development was studied and learnt that the respondents facing company needs have maintained high level of quality than the respondents belong to personal needs and community needs. Hence it is suggested that the other category of respondents concentrating in personal needs and community needs should be advised to maintain high quality open source software development.
10. The respondents using communication tool in open source software at their working environment have maintained high level of quality than the respondents using office automation tool, testing tool development tool and version control tool. Hence it is suggested that these category of respondents should be asked to use high quality maintenance in open source software development.

11. It was learnt that the respondents earning above 10 Lakhs income per annum have maintained high level of quality in open source software than the other category of respondents. Hence it is suggested that additional income may motivate to maintain high quality in open source software development.

12. The problems experienced in release management of open source software development was studied and learnt that the problems such as hardware accessibility usage list in the computer/ mobile environment is not provided. Hence it is suggested that the list of application area in computer/ mobile should be furnished by open source software developers during software release.

13. Further it was learnt that the respondents have opined one of the major issue was unable to identify the stable release of software. Hence it is suggested that the system of software release should be provided in a sequential order of the stable release.

14. Many software’s developed by the open source software developers were used only in a particular platform and the users are finding it difficult to retrieve the needed software. Hence it is suggested that the Platform Independent
compatibility should be user friendly and they should not be dependent on others.

15. The respondents have opined that software should be upgraded without uninstalling the existing software. Hence it is suggested that a release management should be practiced without uninstalling the existing software’s running in the computers/mobiles.

16. It was understood from the analysis that when new software is released the previous released version of software lost its support. Hence it is suggested that the volunteer software developers should give attention and provide remedial measures whenever the users demand.

17. The respondents have lodged a complaint on lack of guidance for installing and updating the newly developed software. Hence it is suggested that the open source software developers should provide proper guidance in a step by step method to install the newly released software.

5.4 CONCLUSION

Release management in open source software development has a significant role in the success of open source software projects, which consists of technical and management activities. Many open source software projects failed in generating a new release due to lack of management in release planning. The efficient management of producing a new release can improve the quality of the product and also the satisfaction of the customers to a greater extent which results in further project evaluation.
Quality management in open source software is more than just a conformance to a set of requirements that represents many attributes related to each other, which confirms the need of the software requirement.

The study investigates the issues to be strengthened in release management for a better release approach in open source software projects. The present research work has given an insight into understanding the OSS phenomenon with regard to the impact of release management on quality improvement in open source software development.

This research has evolved an alternative approach to release management, i.e. the integrated based release approach which needs to integrate the factors such as quality, communication and time with human resource among volunteers for sharing their knowledge resource in open source software project management.

Therefore, it is the hope that the publications, findings and suggestions of this research may help in enhancing proper understanding of release management process and considerably improve the quality of the open source software projects produced by volunteer community.