CHAPTER 9

DISCUSSIONS AND CONCLUSION

9.1 OVERVIEW

This chapter discusses the problems encountered during the research, data collection, system development, testing, and deployment of the PL-Analyser. This chapter also looks at the strengths and weaknesses of the PL-Analyser system, future enhancements that can be made to the system, and gives an overall assessment on the usefulness of the PL-Analyser system in analysing the personality traits and leadership styles of users based on the Big Five personality traits theory and the Situational Leadership theory.

9.2 PROBLEMS ENCOUNTERED

Throughout the research, four major problems were encountered.

i. Soliciting participants for the survey and getting feedback.

During the data collection phase, problems were encountered in communicating with the participants. Individuals were receptive when given the PL-Analyser Website or the printed survey forms. However, out of the 1200 survey forms sent, only 230 (19%) forms were returned with input. In order to achieve wider participation in the survey, more forms can be distributed as printed copies or via email. More people can be invited to participate from different states in Malaysia by using email.
ii. Coding of custom charts.

The personality traits and leadership styles survey results are presented to the participants in both descriptive and graphical formats in the form of charts. These charts are unique and produced only using special software. Thus, extensive research was concluded on graphics rendering algorithms to plot these charts. Finally, the graphs were successfully rendered using Microsoft’s .NET Framework version 2.0 GDI+ libraries (Troelsen, 2007). Samples of the charts can be found in Section 3.2.1 and 3.3.1.

iii. Hosting of PL-Analyser system.

During the deployment phase, the PL-Analyser system was frequently not accessible to participants, leading to a denial-of-service situation. Upon investigation, it was found that the server in the computer laboratory which hosted the PL-Analyser system was frequently shut down. To resolve this problem, the PL-Analyser system is now hosted in an independent hosting provider under the URL of http://pl-analyser.fsktm.um.edu.my.

iv. Users’ commitment during the functional testing.

During the testing phase, users did not pay much attention to the instructions stipulated in the functional test cases. Some users were also carrying out multi-tasking when participating in the test. This is due to their busy working environment. To prevent this being repeated in future testing, permission from users’ employers can be obtained to allow users to focus and participate in functional testing within a one-hour session, without interruption.
9.3 STRENGTHS OF THE PL-Analyser SYSTEM

The strengths of the PL-Analyser system include:

i. The use of established personality traits, leadership styles and career option theories.

PL-Analyser functions are developed based on the Big Five personality traits and Hersey and Blanchard’s Situational Leadership theory. This is not found in other existing systems. Hence, the PL-Analyser system is a unique system in this aspect.

ii. Provision of value added-materials and links.

The PL-Analyser system offers reference materials on personality traits, leadership styles, career guidance and inter-related issues. These comprehensive literatures are not available in other similar systems, which provide information and services solely on personality traits, leadership styles or career guidance only.

iii. The use of security measures to safeguard data.

The PL-Analyser system uses MS SQL Server 2000’s data encryption algorithm to encrypt users’ passwords. Access to sensitive survey responses and results is only allowed for a valid login. At the same time, a session that has been idle for more than ten minutes is disconnected to ensure that no intruder gets access to a session that is not closed by the participant.

iv. Ease of use and user friendliness.

The PL-Analyser system provides a simple four-step process to browsing, registering, participating and viewing survey results. Each step is mapped to the user interface so that participants can see the current stage at any moment, and how much more they have to complete. User interfaces and messages are coded to provide a
consistent design and format to enable users to proceed and navigate from one screen to another easily.

9.4 WEAKNESSES OF THE PL-Analyser SYSTEM

The weaknesses of the PL-Analyser system include:

i. The personality traits analysis and leadership styles measurement require participants to choose one option from a set of options provided to answer each analysis or measurement question. Participants may be able to falsify their responses in order to obtain a favourable personality trait and leadership styles result.

ii. The PL-Analyser system provides opportunities for visitors to read articles and link to other external sites. The number of articles currently available is limited, and more literature on the subject and reference links need to be added to enrich the content of the PL-Analyser Website.

iii. The career options suggested by the PL-Analyser system are derived based on the personality traits of the participants. As discussed in section 8.2.9.1, there is no strong correlation between the Big Five personality traits and John Hollands’s RIASEC theories. The PL-Analyser system could possibly provide a function to analyze and suggest the career options solely based on the John Holland’s RIASEC theory.

9.5 FUTURE ENHANCEMENTS

The system can be further enhanced in the following ways:

i. Honesty in the personality traits analysis and leadership styles measurement.

The PL-Analyser system can help to ensure that participants respond to the survey more honestly when taking the two tests by providing simulation features. During
the simulation, participants will be given scenario-based questions to answer. This will mask the issue being analyzed or measured in each question, thus eliminating the possibility of participants tampering to obtain favourable results in the tests.

ii. Continuous Website maintenance.

The PL-Analyser system allows users to surf for information related to personality traits, leadership styles and career guidance. At the same time, the system also provides the ways for users to provide feedback on how the system can be improved. The PL-Analyser system should be maintained and updated with the latest reference materials and new links to other related sites.

iii. Additional functionality.

As mentioned in section 9.4, the PL-Analyser system could include a new function to provide career suggestions solely based on the RIASEC code theory. This will allow users to obtain guidance on their career without having to undertake the personality tests, which may result in better career matching.

iv. Validity and reliability of the study.

Due to cost and time constraint, it was decided that a minimum of 200 sets of data would be collected for analysis in this project. To confirm the validity and reliability of the Big Five personality traits, Situational Leadership and RIASEC Code theories, more data needs to be collected from participants of the different states in Malaysia. The results would help to determine if these theories can be adopted in the recruitment process in order to reduce the high turn-over rate in the IT industry and for it to be used for career guidance.
9.6 CONCLUSION

The PL-Analyser system has undergone thorough system testing, in which functional, broken link, performance and usability tests were carried out by 30 volunteers and 3 test teams. Functional tests were carried out twice, and the results show that the PL-Analyser system has fulfilled all the functionalities defined in the requirements analysis phase. Broken link test results show errors in links, which were fixed and retested successfully. Performance test results reveal that the PL-Analyser system can handle up to 20 concurrent users. Usability tests reveal that the PL-Analyser system meets the usability requirements defined in the non-functional requirement specifications.

Using the PL-Analyser system, data from 216 survey participants were collected and analysed. Altogether, 136 (91%) participants agree that the Big Five personality traits theory describes their personality traits with 80% to 100% correctness, 124 (84%) participants agree that the Situational Leadership theory describes their leadership styles with 80% to 100% correctness. These results reflect that these two theories describe, closely and correctly, the personality traits and leadership styles of the participants.

On the other hand, 104 (70%) participants agree that the career options derived using John Holland’s RIASEC code theory, based on the personality traits of the participants, describes their career options with between 60% to 79% correctness. Analysis also found that there is no significant correlation between the Big Five personality trait dimensions and the RIASEC career codes. Further analysis to determine the relationship between the ambitions of the participants and their career codes shows that only 12 (41%) out of 29 participants were found to have ambitions that matched their Category 1 RIASEC code. More data needs to be collected in order to investigate the validity of matching the ambitions with the RIASEC career codes.
An analysis of the personality traits of the 170 working group participants shows that 29 (27%) out of 107 male participants have Adjustment as their dominant trait and 30 (48%) out of 64 female participants have Conscientious as their dominant trait. Analysis performed on the personality traits of the 46 non-working group participants found that 6 (30%) out of 20 male participants have Adjustment as their dominant trait and 11 (42%) out of 26 female participants have Conscientious as their dominant trait. These results reflect similar personality traits and leadership styles of the male and female participants, irrespective of working experience.

The analysis performed on the leadership styles of the working group participants found that 165 (97%) participants have task-oriented leadership style. The analysis performed on the leadership styles of the non-working group participants found that 44 (96%) participants also have task-oriented leadership style. These outcomes indicate the high emphasis on the task completion leadership style and lack of balance between task and people oriented leadership style.

In summary, the system development, data collection and analysis performed using the various research methods have achieved the objectives, scopes and requirements of this project. Based on the high percentages of the participants' opinions on the accuracy of the personality traits and leadership styles theories, the PL-Analyser system can be a useful tool to assist users to identify their personality traits and leadership styles for career guidance.