CHAPTER 8

DATA COLLECTION AND ANALYSIS

8.1 OVERVIEW

This chapter describes the analysis of the survey responses from the participants. A total of 216 responses were collected, out of which only 148 participants expressed their opinions on the results from the personality traits and leadership styles survey.

8.2 ANALYSIS OF SURVEY OUTCOMES

In the survey, emails and printed survey forms were sent out to 1200 people. Those contacted were also requested to forward the URL of the PL-Analyser Website (http://pl-analyser.fsktm.um.edu.my) to their friends and colleagues.

Out of the 1200 emails and survey forms sent out, only 230 (19%) people responded. Of this total, 14 sets of survey forms were rejected as the answers and user details were either ambiguous or incomplete. Out of the remaining 216 respondents, 170 (79%) are working people and 46 (21%) are students. The analysis of the survey outcomes is presented in the following sections.

8.2.1 Gender And Age Groups

Of the 216 survey participants, 127 (59%) participants are male and 89 (41%) participants are female. There are 32 (15%), 130 (60%), 42 (19%), 8 (4%) and 4 (2%) participants in the below 20, 21-30, 31-40, 41-50 and 51 and above age groups, respectively. This is shown in Figure 8.1 and Figure 8.2.
8.2.2 Ethnic Groups

In the survey, 86 (40%) participants are Indians, 85 (39%) are Chinese, 37 (17%) are Malays, and 8 (4%) are from other ethnic races in Malaysia, as shown in Figure 8.3.
8.2.3 Educational Level

In the survey, the majority of the participants have a Bachelor’s degree. As shown in Figure 8.4, 126 (74%) participants have a Bachelor’s degree, 32 (19%) participants have a Master’s degree, 6 (4%) participants have other types of qualifications, 4 (2%) participants have the “Sijil Pelajaran Malaysia” certificate (Malaysian Certificate of Education) qualification, and 2 (1%) participants have the “Sijil Tinggi Pelajaran Malaysia certificate” (Malaysian Higher Certification of Education) qualification.

![Educational Level Pie Chart]

Figure 8.4: Educational level of participants

8.2.4 Position

In the survey, 76 (36%) participants work as the middle management personnel (e.g. Manager, Team Leader and Site Manager), 50 (23%) participants work as operations personnel (e.g. Support Engineer, Database Administrator and Data Center Operator), 8 (4%) participants are top management personnel (e.g. Senior Manager, Domain Manager and Vice President), 3 (1%) participants hold posts the board level (e.g. Chief Executive Office, Head of Domain and Country Manager), 3 (1%) participants work as clerical personnel (e.g. General Clerk, Receptionist and Accounts Clerk), and the
remaining 30 (14%) participants work as other categories of staff (e.g. Dispatcher). The
distribution of the participants by their work positions is illustrated in Figure 8.5.

### Figure 8.5: Position of participants

#### 8.2.5 Work Experience

Out of the 170 participants, 86 (40%) participants have been working for 5 years or
less, 55 (25%) participants have been working between 6-10 years, 21 (10%) participants have been
working between 11-20 years and 8 (4%) participants have been working for 21 years or longer as shown in Figure 8.6.

### Figure 8.6: Work experience of participants
Further analysis shows that participants who have worked 21 years and above, and who have the most working experience, are working in the middle management, top management and board levels. Only 2 (1%) participants are working at the middle management level, 4 (2%) participants are working at the top management level, and 2 (1%) participants are working at the board level, as shown in Figure 8.7.

Participants who have worked 5 years or less, have the least working experience, are working at the operations and middle management levels. Of the remaining, 20 (12%) participants are working at the operations level, while 50 (29%) are working at the middle management level.

![Work Experience of Participants According to Position](image)

Figure 8.7: Work experience of participants according to position

### 8.2.6 Industry Of Employment

As shown in Figure 8.8, 125 (58%) participants are working in the manufacturing industry, 4 (2%) participants are working in financial services organisations, 3 (1%) participants are working with the Government, 2 (1%) participants are working in the
telecommunications industry, 2 (1%) participants are working in the oil and gas industry, and 34 (16%) participants are working in other industries.

![Industry of Employment](image)

Figure 8.8: Industry of employment of participants

### 8.2.7 Opinions On The Accuracy Of The Personality Traits, Leadership Styles And Career Selection Theories

In order to investigate how closely the Big Five personality traits theory, Situational Leadership theory and John Holland’s RIASEC code of career selection theory describe the personality traits, leadership styles and career possibilities of a person, the opinions of the participants were sought.

Out of the 216 participants, only 148 (69%) participants expressed their views on how closely the Big Five personality traits and Situational Leadership theories describe their personality traits and leadership styles, and how closely the career options suggested based on the participants’ personality traits match their career aspirations.
Figure 8.9: Opinions on the accuracy of the Big Five personality traits theory

Figure 8.9 shows the feedback from the participants on the description of their personality traits vis-à-vis the Big Five personality traits theory. The results show that 136 (91%) participants agree that the Big Five personality traits theory describes their personality traits with 80% to 100% correctness while the remaining 12 (8%) participants agree that the theory describes their personality traits correctly with 59% or less correctness.

Figure 8.10: Opinions on the accuracy of the Situational Leadership theory
Figure 8.10 shows the feedback from the participants on the description of their leadership styles vis-à-vis the Situational Leadership theory. The results show that 124 (84%) participants agree that the Situational Leadership theory describes their leadership styles with 80% to 100% correctness, while 12 (8%) participants agree that the theory describes their leadership styles with 60% to 79% correctness. The remaining 12 (8%) participants agree that the theory describes their leadership styles correctly with 59% or less correctness. Overall, these results imply that 124 (84%) participants agree that the Situational Leadership theory describe their leadership styles correctly while 24 (16%) participants think otherwise.

<table>
<thead>
<tr>
<th>Opinions of Participants</th>
<th>Number of Participants (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-100%</td>
<td>104 (70.3%)</td>
</tr>
<tr>
<td>60%-79%</td>
<td>32 (21.7%)</td>
</tr>
<tr>
<td>40%-59%</td>
<td>4 (4%)</td>
</tr>
<tr>
<td>20%-39%</td>
<td>4 (4%)</td>
</tr>
<tr>
<td>0%-19%</td>
<td></td>
</tr>
</tbody>
</table>

Figure 8.11: Opinions on the accuracy of the John Holland’s RIASEC code theory

Figure 8.11 shows the feedback from the participants on John Holland’s RIASEC code theory in relation to their career options based on their personality traits. The results show that 104 (70%) participants agree that the John Holland’s RIASEC code theory describes their career options with 60% to 79% correctness, and 32 (21.7%) participants agree that the theory describes their career options correctly with 40% to 59% correctness. Only 4 (4%) participants agree that the theory describes their career options with 20% to 39% correctness, and with 19% or less correctness, respectively.
These results imply that John Holland’s RIASEC code theory which links career options based to personality traits, does not stand up in the views of the survey participants.

8.2.8 Personality Traits Of The Working Group And Non-Working Group

Out of the 216 participants, 170 participants are from the working group, while 46 are students belonging to the non-working group. As working experience may influence the personality traits of a person, the personality traits of those in the working group and the non-working group, are analysed separately.

![Personality Traits of Working Group](image)

Figure 8.12: Personality traits of working group

Figure 8.12 shows that out of the 170 participants of the working group, 29 (27%) male participants have “Adjustment” as their dominant trait, and 30 (47.6%) female participants have “Conscientious” as their dominant trait. Further analysis was done on the 29 male participants who have “Adjustment” as their dominant trait. Figure 8.13 shows that these 29 participants are from the operations, middle management and other level personnels. Also, 15 (52%) out of the 29 male participants have working experience of between 6 and 10 years. Among these three groups, 13 (45%) male participants are middle management personnel.
More male participants exhibit “Agreeableness” as their dominant trait as compared to female participants. In this study, 19 (17.8%) of the male participants have “Agreeableness” as their dominant trait, as compared to 5 (7.9%) of the female participants. This is in contrast to a study on the influence of gender on personality traits, whereby female participants were found to score higher than men on the Five Factor Model (FFM) personality traits of “Agreeableness” (Chapman et al., 2007).

Further analysis done on the 30 female participants who have “Conscientious” as their dominant trait shows that they are from the clerical, operations, middle management and other level personnels as shown in Figure 8.14. Also, 22 (73%) out of the 30 female participants have 5 years or less than 5 years of working experience. Among these four levels of personnel, 12 (40%) female participants are middle management level personnel.

Figure 8.13: Work experience and position of male participants with dominant Adjustment trait
Figure 8.14: Work experience and position of female participants with Conscientious as the dominant trait

Figure 8.15: Personality traits of non-working group

Figure 8.15 shows that out of the 46 participants from the non-working group, 6 (30%) male participants have “Adjustment” as their dominant trait, and 11 (42%) female participants have “Conscientious” as their dominant trait. A study has shown that female students with high “Conscientious” trait are strongly and consistently associated with academic success (O’Connor and Paunonen, 2007). By comparing the
dominant traits of males and females in both the working and non-working groups, it is obvious that the dominant traits of the male and female participants are the same, namely “Adjustment” and “Conscientious,” respectively. A possible reason for female participants to exhibit Conscientious as their dominant trait is their tendency to focus on achieving results, rather than learning from exposure (Zhang, 2007).

8.2.9 Personality Traits And Career Options Of Participants

As part of the personality traits analysis, the PL-Analyser system also maps John Holland’s RIASEC code of careers to the Big Five personality traits theory in order to suggest possible careers to the survey participants.

Using the 216 survey responses collected, an analysis was performed to determine if there is a correlation between the five personality traits in the Big Five personality traits theory and the RIASEC career codes. Further analysis was performed to determine if there is a relationship between the ambitions of the survey participants and their career codes.

8.2.9.1 Correlation Between Personality Traits and Career Options of Participants

The findings illustrated in Figure 8.11 shows that none of the participants agree that the career options derived using John Holland’s RIASEC code theory, based on the personality traits of participants, describes their career options with 80% to 100% correctness.

To determine further whether there is a correlation between the five personality traits of the Big Five personality traits theory and the career codes of John Holland’s RIASEC code, a multivariate graph was plotted, as illustrated in Figure 8.16. This graph shows the degree of correlation between the personality traits and the career codes. A linear relationship exists if the the correlation coefficient is near either +1 or -1.
(Stamatis, 2003). As shown in Table 8.1, the correlation values recorded between the five personality trait dimensions and the RIASEC codes, range between -0.248 and 0.2553. This shows that there is weak or no relationship between the five personality trait dimensions and the RIASEC codes. This supports the opinions expressed by participants in Section 8.2.7, which indicates that the career options derived using the RIASEC code theory based on a person’s personality traits, do not match closely with the career that the person aspires to pursue.

Table 8.1: Correlation coefficients between the five personality trait dimensions and the RIASEC codes

<table>
<thead>
<tr>
<th></th>
<th>Adjustment</th>
<th>Sociability</th>
<th>Openness</th>
<th>Agreeableness</th>
<th>Conscientious</th>
<th>RIASEC Code1</th>
<th>RIASEC Code2</th>
<th>RIASEC Code3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustment</td>
<td>1.0000</td>
<td>0.0488</td>
<td>0.3621</td>
<td>-0.1165</td>
<td>-0.1796</td>
<td>0.2553</td>
<td>0.2553</td>
<td>0.2553</td>
</tr>
<tr>
<td>Sociability</td>
<td>0.0488</td>
<td>1.0000</td>
<td>0.2319</td>
<td>0.4196</td>
<td>-0.0803</td>
<td>0.2395</td>
<td>0.2395</td>
<td>0.2395</td>
</tr>
<tr>
<td>Openness</td>
<td>0.3621</td>
<td>0.2319</td>
<td>1.0000</td>
<td>-0.0304</td>
<td>-0.3308</td>
<td>-0.1696</td>
<td>-0.1696</td>
<td>-0.1696</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-0.1165</td>
<td>0.4196</td>
<td>-0.0304</td>
<td>1.0000</td>
<td>0.1326</td>
<td>0.0663</td>
<td>0.0663</td>
<td>0.0663</td>
</tr>
<tr>
<td>Conscientious</td>
<td>-0.1796</td>
<td>-0.0803</td>
<td>-0.3308</td>
<td>0.1326</td>
<td>1.0000</td>
<td>-0.2418</td>
<td>-0.2418</td>
<td>-0.2418</td>
</tr>
<tr>
<td>RIASEC Code1</td>
<td>0.2553</td>
<td>0.2395</td>
<td>-0.1696</td>
<td>0.0663</td>
<td>-0.2418</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
</tr>
<tr>
<td>RIASEC Code2</td>
<td>0.2553</td>
<td>0.2395</td>
<td>-0.1696</td>
<td>0.0663</td>
<td>-0.2418</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
</tr>
<tr>
<td>RIASEC Code3</td>
<td>0.2553</td>
<td>0.2395</td>
<td>-0.1696</td>
<td>0.0663</td>
<td>-0.2418</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Studies were carried out to determine if personality traits relates to job satisfaction also supports the findings in Figure 8.11. It was concluded that personality does not have a strong influence either on what individuals perceive as important in their work environment or on their level of job satisfaction (Furnham et al., 2007).
8.2.9.2 Analysis of the Relationship Between Ambitions and John Holland’s RIASEC code

Out of the 216 participants, 29 (14 %) participants provided information on their ambitions. A person’s ambitions may have a bearing on his type of career, thus the relationship between the ambitions of participants and their RIASEC codes needs to be analysed.

Table 8.2: Matching of ambitions with the RIASEC codes

<table>
<thead>
<tr>
<th>RIASEC categories that participants are most strongly associated to</th>
<th>Number of participants (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1 (Most associated)</td>
<td>12 (42%)</td>
</tr>
<tr>
<td>Category 2</td>
<td>5 (17%)</td>
</tr>
<tr>
<td>Category 3 (Least associated)</td>
<td>7 (24%)</td>
</tr>
<tr>
<td>No match with any category</td>
<td>5 (17%)</td>
</tr>
</tbody>
</table>
Table 8.2 shows that out of the 29 participants, 12 (42%) participants, 5 (17%) participants and 7 (24.1%) participants, were found to have ambitions that matched with their Category 1 RIASEC code, Category 2 RIASEC code and Category 3 RIASEC code, respectively. Only 5 (17%) participants’ ambitions could not be matched to any of their RIASEC codes. The low matching rates reveal a weak relationship between the participants’ ambitions and the RIASEC codes. However, more data needs to be collected to confirm this finding. The data set used in this analysis is very small and it is not sufficient to make an inference.

8.2.10 Leadership Styles Of The Working Group And Non-Working Group

Out of the 216 participants, 170 participants are from the working group, while 46 are students who belong to the non-working group. As work experience may influence the leadership style of a person, an analysis of the leadership style of those in the working group and non-working group are done separately.

![Leadership Styles of Working Group - by Gender](image)

Figure 8.17: Leadership styles of working group – by gender

Figure 8.17 shows that 165 (97%) out of 170 participants in the working group have task-oriented leadership style. Only 5 (3%) participants have people-oriented leadership style. Out of the 165 task-oriented participants, 104 (61%) participants are male and the
remaining 61 (36%) participants are female. Out of the 5 people-oriented participants, 3 (2%) participants are male and the remaining 2 (1%) participants are female.

Figure 8.18: Leadership styles of working group – by age group

Figure 8.18 shows that out of the 165 working group participants who are task-oriented, 115 (68%), 41 (24%), 6 (3%) and 3 (1.5%) participants are in the age groups 21-30, 31-40, 41-50 and 50 years and above respectively. Out of the 5 working group participants who are people-oriented, 1 (0.5%), 1 (0.5%), 2 (1%) and 1 (0.5%) participants age groups of 21-30, 31-40, 41-50 and 50 years and above respectively.

Further analysis was performed on the 165 task-oriented participants illustrated in Figure 8.17. Figure 8.19 shows that 85 (52%) participants have 5 years or less than 5 years of working experience. The figure also shows that 74 (44%) participants are middle management level personnel.
Figure 8.19: Work experience and position of task-oriented working group participants

Further analysis on the 5 people-oriented participants shows that 4 (80%) participants are working in management positions, and only 1 (20%) participant is working in the other category, as shown in Figure 8.20. The figure also shows that 4 (80%) participants have been working for at least 6 years or more.

By comparing the data in Figure 8.19 and Figure 8.20, it can be seen that task-oriented participants have been working for 5 years or less than 5 years, and are mostly in the middle management level. This shows that these participants are more concerned with task completion rather than the welfare and needs of their subordinates. It can also be seen that people-oriented participants are the senior management personnel who have been working for at least 6 years or more. They are people-oriented, probably due to their long working experience and good interpersonal relationship, which promotes loyalty from the subordinates to achieve higher productivity, and lead to business success.
Figure 8.20: Work experience and position of people-oriented working group participants

Figure 8.21: Leadership styles of non-working group – by gender

Figure 8.21 shows that 44 (96%) out of the 46 non-working group participants have task-oriented leadership style. Only 2 (4%) participants have people-oriented leadership style. Out of the 44 task-oriented participants, 26 (57%) participants are female and the remaining 18 (39%) participants are male. The 2 people-oriented participants are male. Hence, it is obvious that majority of the non-working group participants are task-oriented. This is probably due to the education system in Malaysia, where emphasis is placed on obtaining good grades in examinations as opposed to encouraging socialising.
and to gain exposure. There are programmes available to schools that offer leadership trainings to students, such as the National Teambuilding Camp (‘Kem Bina Negara’). However, only selected students are sent by schools to attend such programmes, thus resulting to the small number of non-working group participants with people-oriented leadership style.

Figure 8.22: Leadership styles of non-working group – by age group

Figure 8.22 shows that out of the 44 non-working group participants who are task-oriented, 30 (65%) participants are below 20 years old and 14 (31%) participants are in the age group of 21-30 years old. The 2 (4%) non-working group participants who are people oriented are below 20 years old.

As described in Section 3.3, the overall leadership performance of a person can be determined by looking at the relationship between the task-oriented and people-oriented scores. Analysis on the 216 participants shows that 72 (33%) participants belong to the low leadership category, and 144 (67%) participants belong to the medium leadership category. None of the participants exhibits high leadership performance as shown in Table 8.3.
Table 8.3: Leadership performance of participants

<table>
<thead>
<tr>
<th>Leadership performance</th>
<th>Number of participants (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>72 (33%)</td>
</tr>
<tr>
<td>Medium</td>
<td>144 (67%)</td>
</tr>
<tr>
<td>High</td>
<td>0</td>
</tr>
</tbody>
</table>

Further analysis in Figure 8.23 shows that out of the 170 working group participants, 72 (67%) male participants exhibit medium leadership performance as opposed to 45 (71%) female participants who exhibit similar performance. This shows that participants from the female working group are better leaders than their male counterparts. This could possibly be due to the inherent ability of females to perform multiple tasks on hand, and their ability to balance both their work and life/family.

![Overall Leadership Performance of Working Group](image)

Figure 8.23: Overall leadership performance of working group

Figure 8.24 shows that out of the 46 non-working group participants, 11 (58%) male participants exhibit medium leadership performance as opposed to 15 (56%) female participants who exhibit similar performance. This shows that male participants of the non-working group are slightly better in leadership than their female counterparts. This could be due to the active involvement of both genders in the school/university activities, where both gender hold leadership roles (e.g. Student Head, Editor, Sports Captain and etc.)
8.3 SUMMARY

This chapter presents the results of analysis conducted on the survey participation and survey feedback data collected using the PL-Analyser system. The analysis found that 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 and none of the 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 correctly at with 80% to 100% correctness.

The analysis performed on the personality traits and career codes shows that there is a weak correlation. The analysis to determine relationship between the ambitions of the participans and their career codes shows that out of the 29 participants, 12 (41%) participants have ambitions that match their Category 1 RIASEC code, which they are most associated with. Only 5 (17 %) participants are found to have ambitions that match Category 2 RIASEC code, and 7 (24%) participants have ambitions that match their Category 3 RIASEC code.

Figure 8.24: Overall leadership performance of non-working group
The analysis performed on the personality traits of the participants found that 29 (27%) male participants have Adjustment as their dominant trait, and 30 (47.6%) female participants have Conscientious as their dominant trait.

The analysis performed on the leadership styles of the participants of the working group found that 165 (97%) out of 170 participants have task-oriented leadership. Out of the 170 participant of the working group, 72 (67%) male participants exhibit medium leadership performance, as compared to 45 (71%) female participants who exhibit similar leadership performance. This shows that female working group participants in this survey are generally better leaders than their male counterparts.

The analysis performed on the leadership styles of the participants of the non-working group found that 44 (96%) out of the 46 participants have task-oriented leadership. Of the 46 participants, 11 (58%) male participants exhibit medium leadership performance as compared to 15 (56%) female participants who exhibit similar leadership performance. This shows that both genders from the participants in the non-working group exhibit similar levels of leadership performance.