PROBABILITY & STATISTICAL DATA ANALYSIS
SECTION-02

SECI2143

20202021/2

GROUP PROJECT TITLE:

The Characteristics of Ideal Job among University Students

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1.0 INTRODUCTION

"Study hard. Get a degree. Find a good job. Live happily ever after." I believe most of the people have heard sentences similar to this. However, the fact is that the unemployment rate has increased dramatically among these years. Unfortunately, according to the statistics from EduAdvisor, there are over 290,000 students graduate with higher learning from institutions and 1 out of 5 graduates remain unemployed, with the majority being degree holders. These graduates make up 55% of those who are unemployed.

Finding a suitable job is a concern for every university student and this is the reason why they are at the university and taking the current course that is related to their future job field. This is due to university life as preparation for their future job. In order to succeed in their work field, they need to have skills and knowledge in their expected job in order to get hired. However, as we know the rate of unemployment increased dramatically during these years, this has many factors to cause this problem like skills mismatch, recruitment mismatch and high expectation.

Thus, the purposes of this survey are studying current job preference among university students and investigating the relationship between student's course and job preference. We believe this study will help them start thinking and identifying their ideal job in order to set a target for the future. This will also encourage university students to start finding suitable companies and get the information about recruitment rules or welfare to workers.

Last but not least, we will discuss the finding of this survey about the main concerns of jobs by analysing the data that we gathered. We really hope the results of this survey can give motivation to university students to improve themselves for the purpose of getting their ideal job and understanding the directions for their future job.

2.0 DATA COLLECTION

Data Collection Method

Questionnaires were discussed among the team members and sent to the lecturer to have a check. After receiving the approval from the lecturer, an electronic questionnaire had been distributed to friends and students studying in UTM via different social media platforms such as Whatsapp, Wechat, Instagram and Messenger. The questionnaire was divided into four sections, which the section 1 is the personal data of the respondent. While section 2 is about preference of an ideal job's environment, section 3 is about the preference of an ideal job's salary and section 4 is about the preference of an ideal job's benefit.

Sample Selection

The respondents involved in this survey were students studying in UTM. A probability sampling technique was used to collect primary data. Each member of the group team was responsible for distributing the questionnaire to random members of the sample which accumulated a total of 70 respondents.

Data Description

From the section 1 of the questionnaires, it includes the personal data such as gender, age, current education level, course taken in university, job experience so as years of job experience.

For section 2 of the questionnaires, it discusses the preference of an ideal job's environment. Linear scale of agreeing environment is the important factor of job preparation so as preferred types of company and respondent preferred working style. Several utilities in checkbox style to let our respondent choose as the basic utilities in the company.

Section 3 is the preference of an ideal job's salary.questions such as expected salary (RM), expected wages inEmployee Provident Fund (EPF) in percentage and expected working hours were prepared.

Last but not least, for section 4 is about the preference of an ideal job's benefit which include the insurance coverage, allowance, annual leave and the amount of year end bonus.

Example of parameter and variables

Variables	Data Type	Level of Measurement	Parameter
How many years of job experience	Quantitative	Ratio	Mean
Expected salary (month)	Quantitative	Ratio	Mean
Expected working hours (per day)	Quantitative	Ratio	Mean
Characteristic of Company	Categorical	Ordinal	Mode
Expected annual leave	Quantitative	Ratio	Mean
Expected allowance	Quantitative	Ordinal	Mode

3.0 DATA ANALYSIS

3.1 Demographics

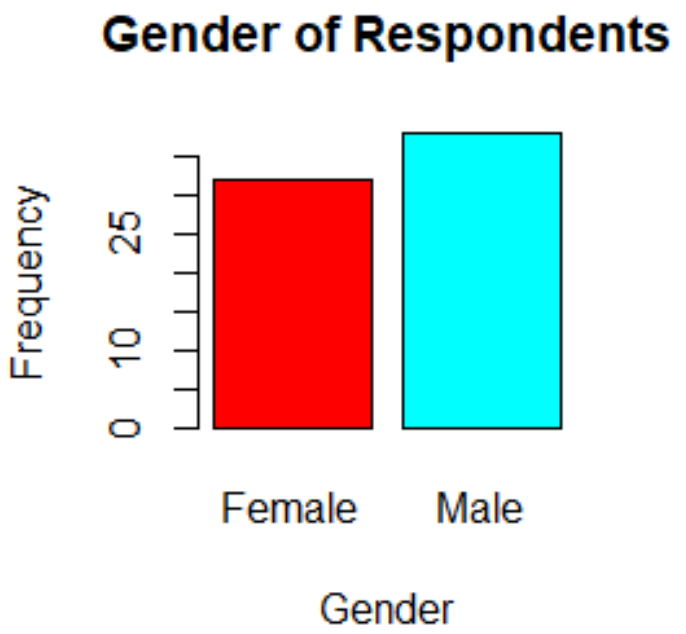

Figure 3.1.1 Gender of Respondents

Based on the bar chart (Figure 3.1.1) above, there are a total of 70 respondents participating in the survey online where 32 female respondents (45.7%) and 38 male respondents (54.3%). Since there is only a difference of six between male respondents and female respondents. Thus, we can believe that the result of this survey is approximately fair and will not be partial towards any gender's preference.

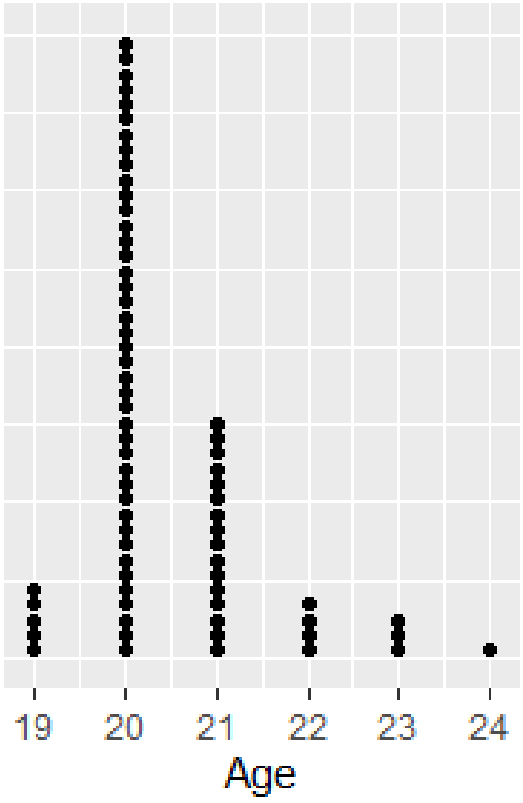

Figure 3.1.2 Age of Respondents

Based on the dot plot above, we can identify that the majority of respondents is 20 years old with 41 respondents (58.6%) followed by 21 years old with 16 respondents (22.9%). Meanwhile, there are 5 respondents (7.1%) is 19 years old, 4 respondents (5.7%) is 22 years old, 3 respondents (4.3%) is 23 years old and 1 respondents (1.4%) is 24 years old. Thus, this survey will focus more on the ideal job of university students with age between 19 until 24.

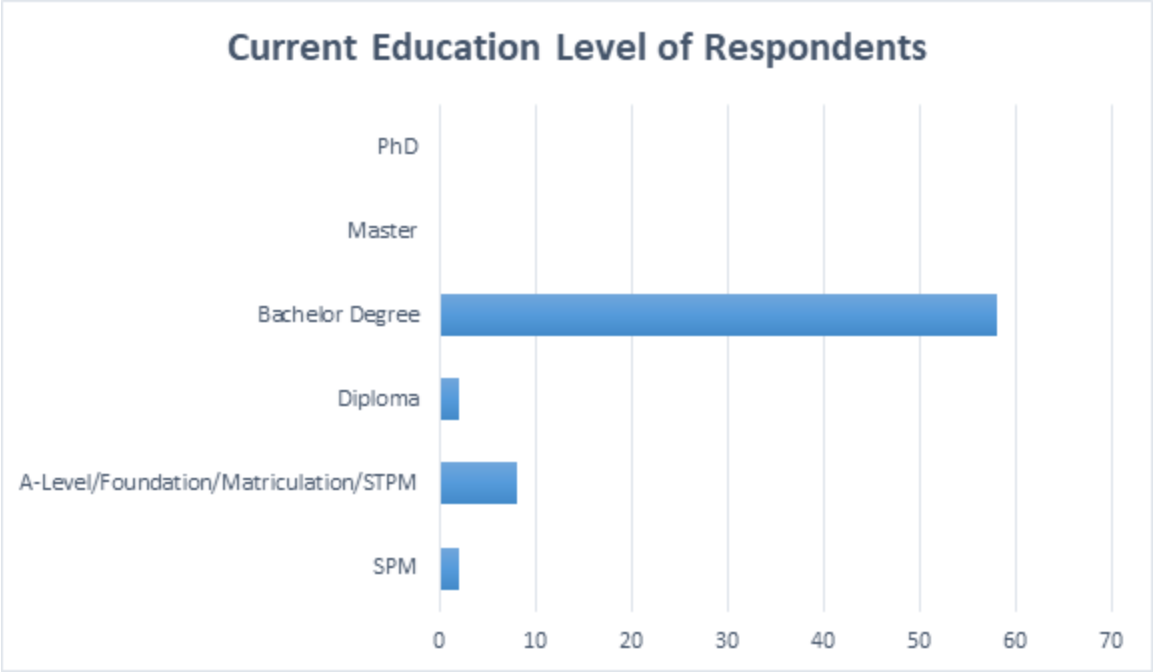

Figure 3.1.3 Current Education Level of Respondents

From the current education level of the respondents, there are more respondents enrolled in the course with the 'Bachelor Degree' level which has 58 (82.9%) in this survey. Out of the rest 12 respondents, the 'Diploma' and 'SPM' level take up 2 (2.9%) each, where the rest 8 (11.4%) respondents enrolled in the course with 'A-level/Foundation/Matriculation/STPM' level while none of the respondents were in PhD or Master level. Based on the statistics, we can conclude that the result is more biased towards the people who are enrolling in the course with the 'Bachelor Degree' level. Thus, we can understand the job preference from the students of Bachelor Degree who are at the stage of interacting with the job or internship.

Course	Frequency	Relative Frequency	Cumulative Frequency	Percent(%) of Cumulative Frequency	Valid Percent(%) of Cumulative Frequency
Data Engineering	27	0.386	27	38.6	43.5
Graphic and Multimedia	8	0.114	35	50.0	56.4
Network and Security	5	0.071	40	57.1	64.5
Electronic Engineering	6	0.086	46	65.7	74.2
Finance	4	0.057	50	71.4	80.7
Bioinformatics	2	0.029	52	74.3	83.9
Mechatronic Engineering	3	0.043	55	78.6	88.7
Mechanical Engineering	2	0.029	57	81.5	91.9
Music	1	0.014	58	82.9	93.5
Polymer Engineering	1	0.014	59	84.3	95.1
Aerospace Engineering	1	0.014	60	85.7	96.7
Maternal and Newborn Health	1	0.014	61	87.1	98.3
Veterinary Medicine	1	0.014	62	88.5	100.0
NA	8	0.114	70	100.0	-
Total	70	1.000	-	-	-

Figure 3.1.4 Enrolled Course of Respondents in University

Based on the above frequency distribution, it shows that the majority of the respondents are currently enrolled in the course about engineering. From that, most of the courses are related to computing which are data engineering with 27 respondents (38.6%), graphic and multimedia with 8 respondents (11.4%), network and security with 5 respondents (7.1%) and bioinformatics with 2 respondents (2.9%) while other engineering are electronic engineering with 6 respondents (8.6), mechatronic engineering with 3 respondents (4.3%), polymer engineering and aerospace engineering with 2 respondents (2.9%). There are also 4 respondents (5.7%) respondents from finance and 1 respondent (1.4%) from music, maternal and newborn health and veterinary medicine each while the rest of 8 respondents (11.4%) who are counted as not applicable because they entered the data which is irrelevant such as UTM, UPM and UKM. From this result, we can conclude that this survey covered job expectations from a variety of study fields. However, the result will be more bias towards the field of engineering so we can identify the difference between ideal and realistic job characteristics.

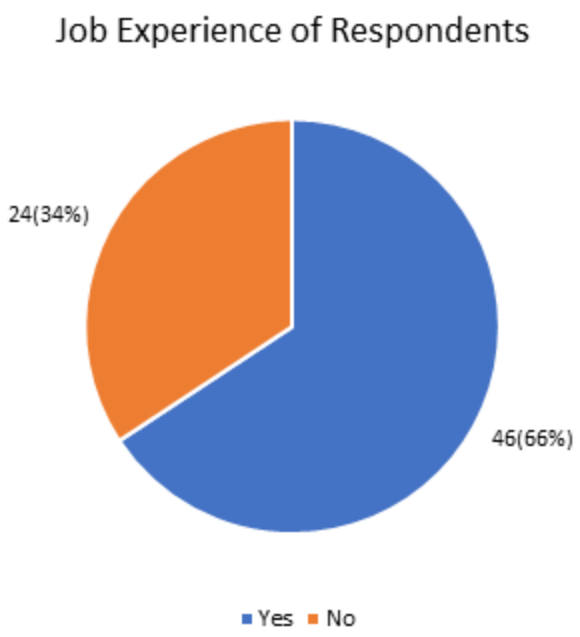

Figure 3.1.5 Job Experience of Respondents

The 'Job Experience of Respondents' pie chart shows that the majority of respondents already have job experience at 46 (66%) outnumbering the respondents who do not have job experience at 24 (34%) by 22 (32%) when enrolled in a course in university. Recently, the job requirement has become strict, especially requiring an intern with job experience. From this, we can know that most of the pre-university or university students have work as part time or full time while waiting for the academic result or even when studying and this makes them fulfil the job requirement that mentioned before. It seems they will have a mindset about what type of job they wanted and deserved.

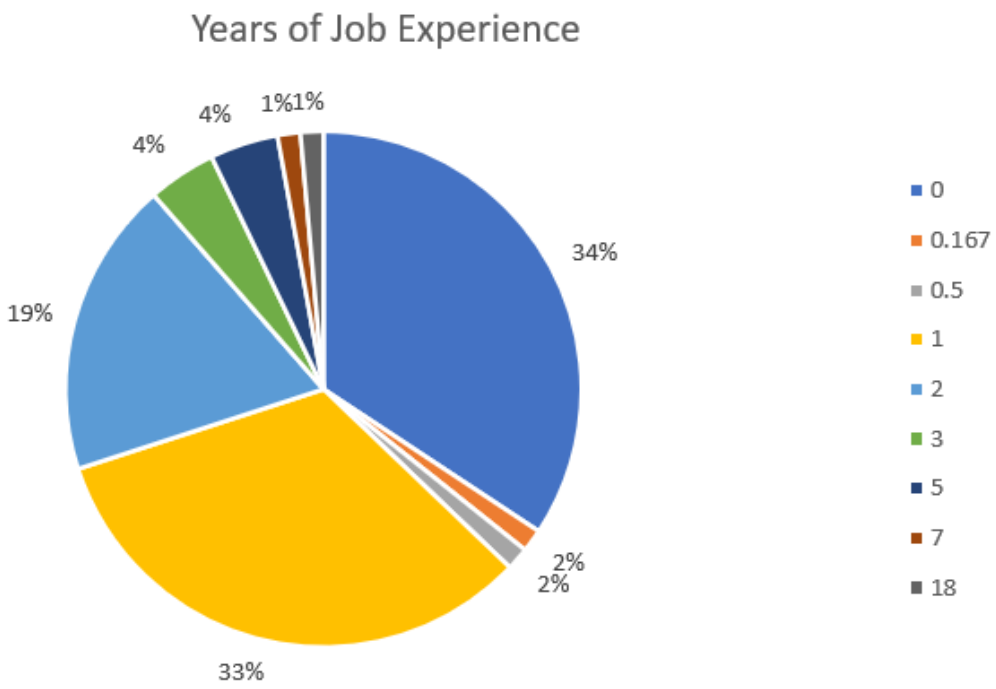

Figure 3.1.6 Years of Job Experience of Respondents

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Figure 3.1.7 Years of Job Experience of Respondents

Based on the 'Years of Job Experiences' pie chart and stem leaf, it shows that slightly more than one third of the respondents entered for zero years of work experience which has the highest frequency at 24(34%), second highest is 1 year of working experience which almost occupied one third of the pie chart at 22(33%), next is 13(19%) for 2 years of working experience, whereas respondents that has the lowest frequency is 0.167 year, 0.5 year and 7 years for each has only 1 respondents at 1(2%) while another 1 respond was counted as not applicable due to the entered data is too extreme which is 18 years of working experience

where the maximum age entered is 24. Based on the entered data, we can know that the average years of working experience of respondents is 1.4 years and the median is 1 year. However, the statistics show that the result is more biased towards the people who have working experience between 0 - 2 years. Furthermore, we can know that some of the students might be still working part time while studying.

3.2 Preference of an Ideal Job's Environment

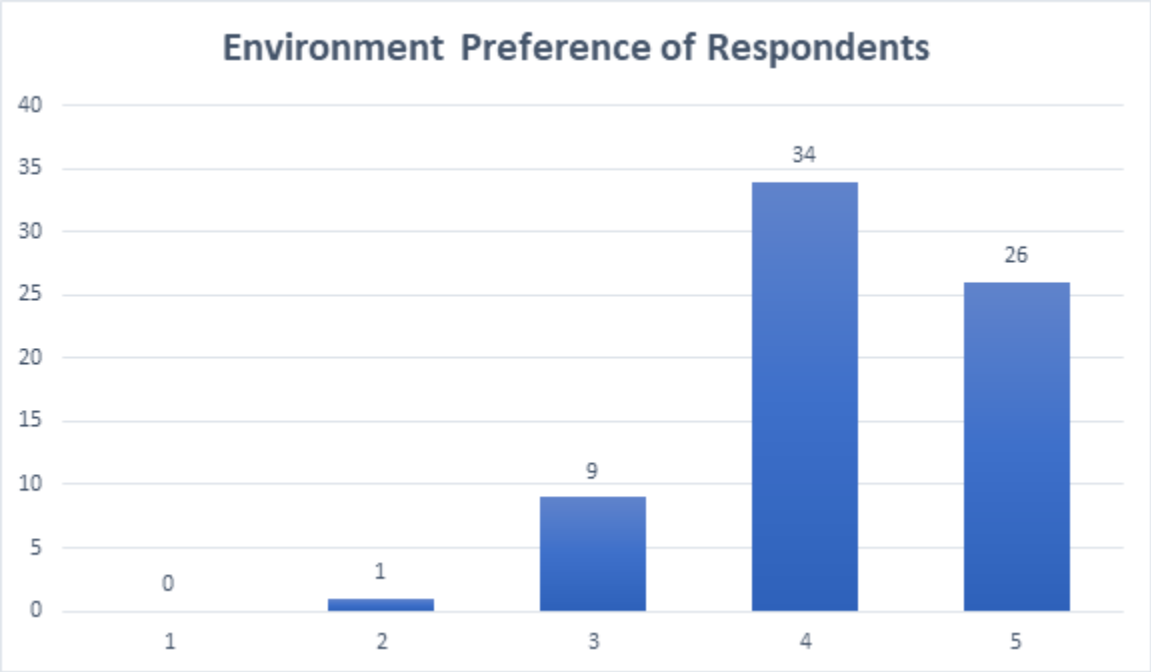

Figure 3.2.1 Environment Preference of Respondents

Based on the bar chart above, starting from linear scale 1 which strongly disagrees with linear scale 5 which strongly agrees with that environment as the most important factor of job. There is no respondent who strongly disagrees (Linear scale = 0) that the environment is the most important factor while there are 34 respondents (48.6%) which are the majority agree (Linear scale = 4) that environment is the most factor in a job. Only 1 respondent (1.4%) who disagrees (Linear scale = 1) that the environment is the most important factor of a job. However, there are 9 respondents (12.9%) that remain neutral (Linear scale = 3) that the environment is the most important factor of a job and the other 26 respondents (37.1%) strongly agree (Linear scale = 5) that environment is the most important factor in a job. In a nutshell, we know that environment is one of the important factors in a company as most of the respondents agree with it in the sample. This is due to the job environment will affect the creativity and convenience of people.

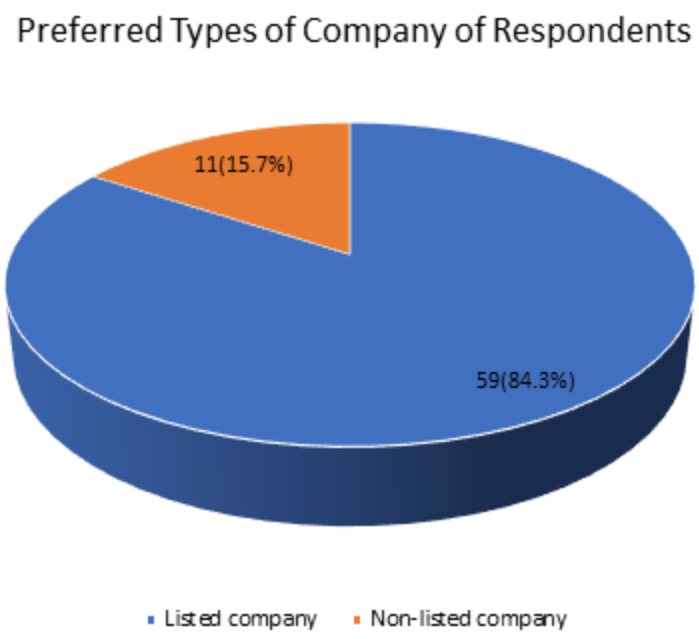

Figure 3.2.2 Preferred Types of Company

From the figure above, we know that most of the respondents which are 59 respondents which is 84.3% prefer working in a listed company while the other 21 respondents which is 15.7% of respondents prefer working in a non-listed company. As most of the respondents think that working in a listed company will learn more things and can have more salary compared to non-listed companies as most of the respondents are still students and do not need to think about family matters or marriage. Thus, more people will prefer to work in a listed company.

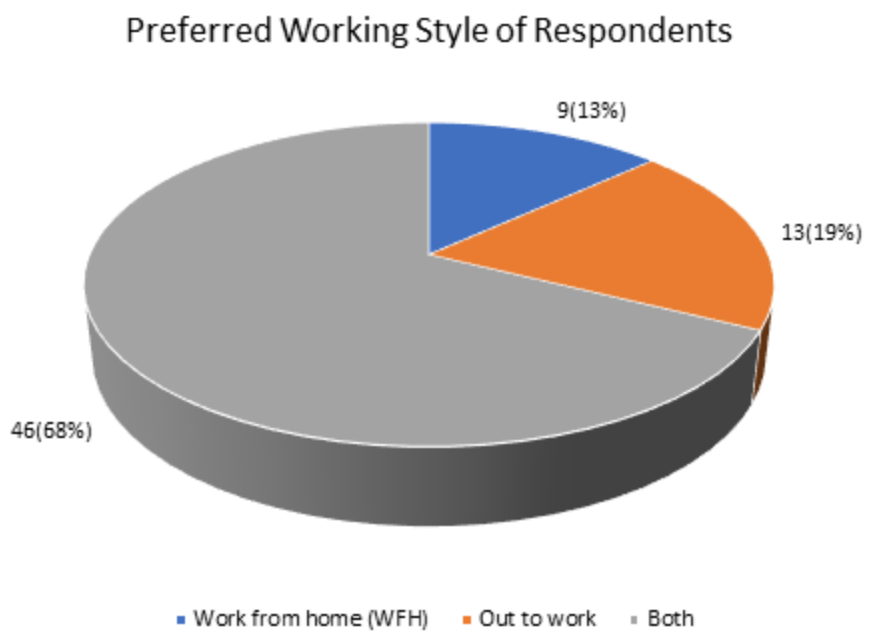

Figure 3.2.3 Preferred Working Style of Respondents

Based on the figure above, there are 9 respondents with the percentage of 12.9% preferred to work from home (WFH). However, there are 13 respondents with the percentage of 18.6% preferred to out to work. For the remaining 48 respondents with the percentage of 68.6% preferred to work in both styles while working in a company. Working in both styles had the highest percentage among all because some of the tasks given by the company actually can be done by their own and respondents do not need to travel in traffic just to complete their own task in company which respondents can work in home but of course there are tasks that need teamwork. Thus, working in both styles gain more percentage than the others.

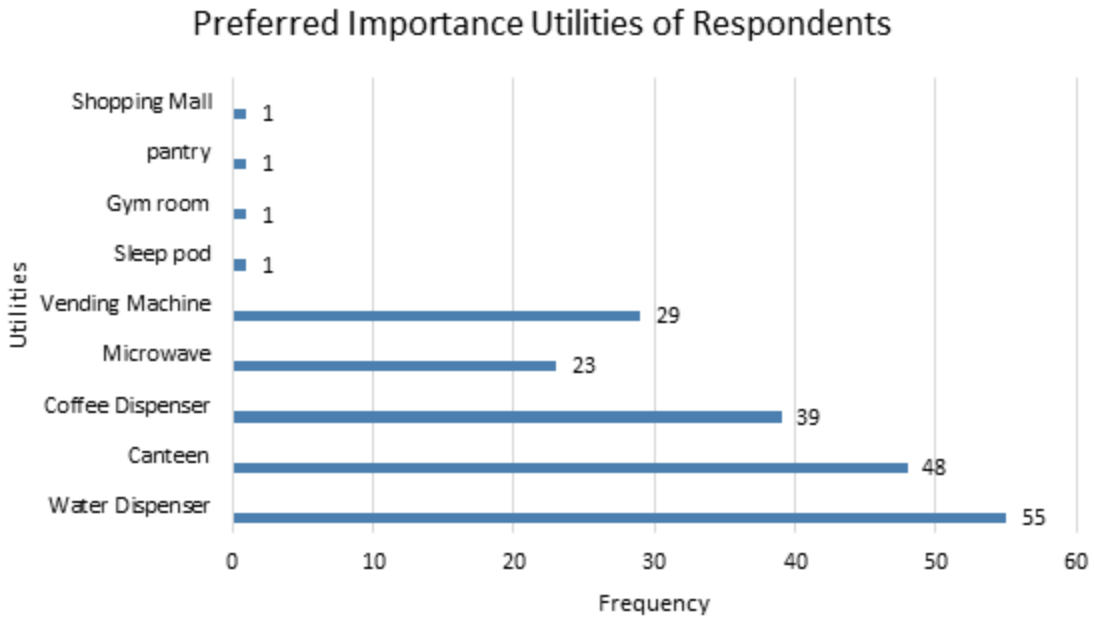

Figure 3.2.4 Important Utilities in a Company

Based on the figure above, there are 55 respondents which is 78.6% think that the water dispenser is important to have in a company and 48 respondents which is 68.6% think that canteen is an important utility in a company. Coffee dispenser had a total of 39 respondents which is 55.7% that think it is an important utility in a company. However, there are 23 respondents with 32.9% think that microwaves are an important utility to have in a company and 29 more respondents (41.4%) think that a vending machine is an important utility to have in a company. Nevertheless, there is 1 respondent (1.4%) who think that the sleeping pod, gym room, pantry and shopping mall is an important utility in a company. As water is a basic human need, thus, the majority of people prefer to have the water dispenser in a company more than any utilities. While the shopping mall, pantry, gym room and sleep pod had the least important utilities in a company as it is not necessary nor a basic need.

3.3 Preference of an Ideal Job's Salary

Figure 3.3.1 Salary Preference of Respondents

Based on the figure given above, we can clearly see that there consist of 55 respondents with the percentage of 78.6% choosing the scale of 5 which strongly agree that salary is the most important factor when getting a job. Next, there are a total of 13 respondents with the percentage of 18.6% choose the scale of 4 which agree that salary is a very important factor when getting a job. However, there exists 2 respondents with the percentage of 2.9% choose the scale 3 which think that salary preference is neutral to them. Therefore from the figure we can derive the information that most of the people think that salary is the most important factor when getting a job and the modal class for this graph is linear scale 5. This is because nowadays human lifestyles have been improved tremendously and daily supplies have become more expensive. Hence the requirement of better salary preference has become more common. In conclusion, salary is one of the characteristics that shapes the job more attractive.

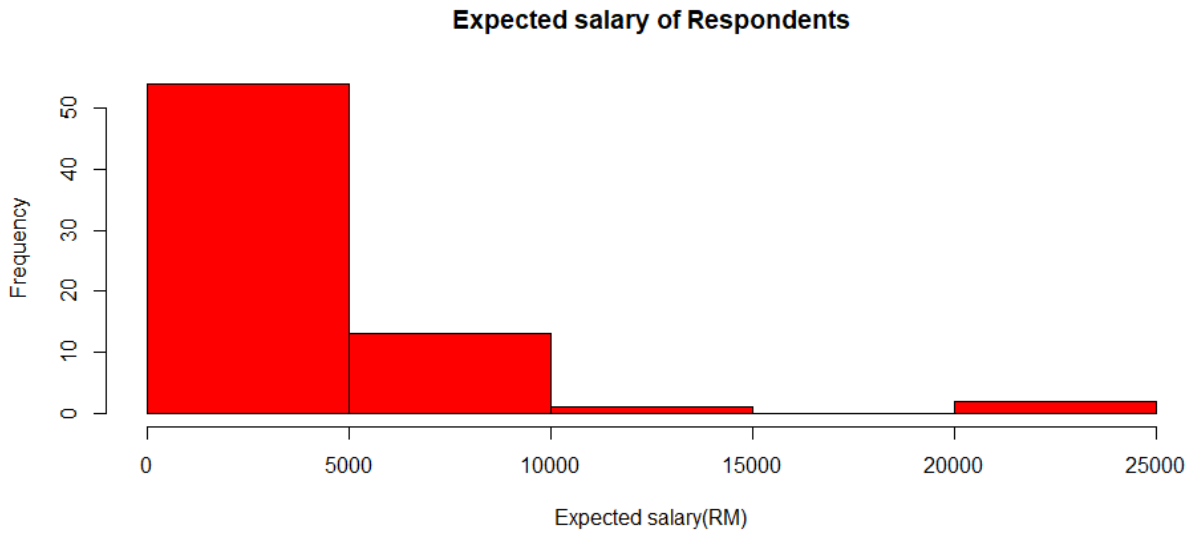

Figure 3.3.2 Expected Salary of Respondents

Figure above shows the histogram of expected salary of respondents. Firstly, 54 respondents (77.1%) have their expected salary within RM0 to RN5000. Next, there are a total of 13 respondents (18.6%) who have their expected salary within the limit of RM5001 to RM10000. Lastly, expected salary within RM10001 to RM15000 consists of 1 respondent (1.4%) and 2 respondents (2.8%) have their expected salary within RM20001 to RM25000. Therefore from the information that we obtain above, we can conclude that the modal class for this bar chart is RM0 to RM5000. The mean of this result is RM5311.41 and the median is RM3250. From the result that we calculated the current fresh graduate or undergraduate have higher salary expectation then the actual salary that is offered by the company. However, the result may be different from other jobs according to the demands of society.

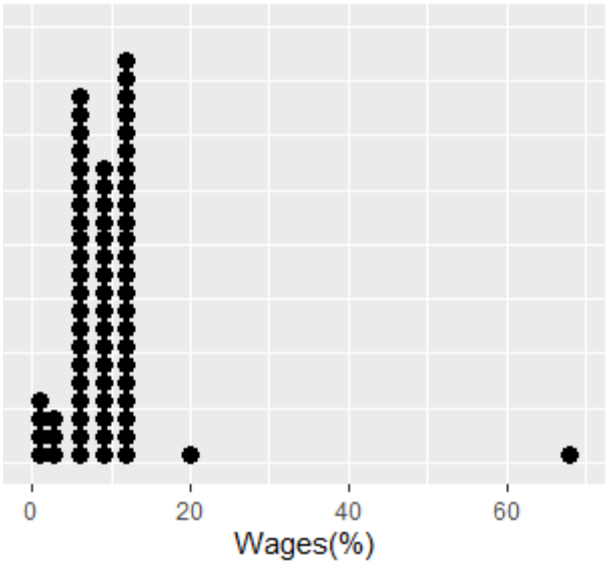

Figure 3.3.3 Expected Wages (in percent) Paid as Employee Provident Fund (epf) of Respondents

Based on the dot plot above, we can identify that most of the respondents prefer 11% of wage paid as epf which are 19 of them (27.1%). Next, 14 respondents (20%) have chosen 7% of wage paid as epf and 10 respondents(14.3%) prefer 10% wage paid according to the result obtained. However, there are some extreme values we obtain such as 1 respondents (1.4%) chosen 68% of wage paid as epf and also 2 respondents (2.8%) who chose 0% and 0.01% as their wage paid respectively. Besides, there are also 5 respondents (7.1%) choose 6% od wage paid, 4 respondents (5.7%) choose 9% wage paid, 3 respondent (4.3%) choose 8% wage paid, 3 respondent (4.3%) choose 12% wage paid, 2 respondent (2.9%) choose 5% wage paid, 2 respondent (2.9%) choose 3% wage paid and 2 respondent (2.9%) choose 2% wage paid. Lastly, there are a total of 3 respondents (4.3%) choose 2.5% wage paid(1.4%), 13% wage paid(1.4%) and 20% wage paid(1.4%) respectively. Therefore, the mean percentage of wage paid as epf for the respondents is 9.38% and the modal class for this graph is 11%. In conclusion, we can know that the adequate percentage of wage paid as epf is one of the characteristics of an ideal job and respondents have considered the current situation when entering the value as the result is tally with the statistic from KWSP..

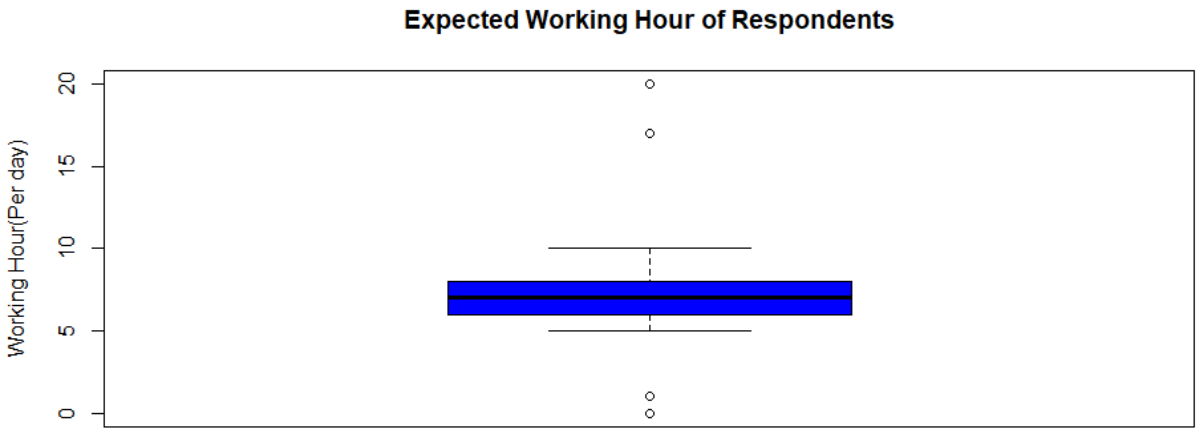

Figure 3.3.4 Expected Working Hour of Respondents

From the modified box plot graph above, the range of expected working hours of respondents is from 5 hours to 10 hours and there exist 4 outliers which are extremely higher or lower than the limit calculated. The four outliers are 0, 1, 17 and 20 respectively. Based on the graph above we can know that the Q1 for this graph is 6 and the Q2 which is also known as median for this graph is 7 and lastly the Q3 is 8. The IQR for this graph is 2 and the lower limit is 3 while the upper limit is 11. Based on the result obtained, there exists the occurrence of outliers and the most preferred working hour per day is 7 which is widely chosen by the respondent. The average working hours of respondents are 7.4 per day. In conclusion, 7.4 working hours is one of the characteristics of an ideal job and we know that suitable working hours are important for workers to maintain their performance as after working they still have the leisure time.

3.4 Preference of an Ideal Job's Benefit

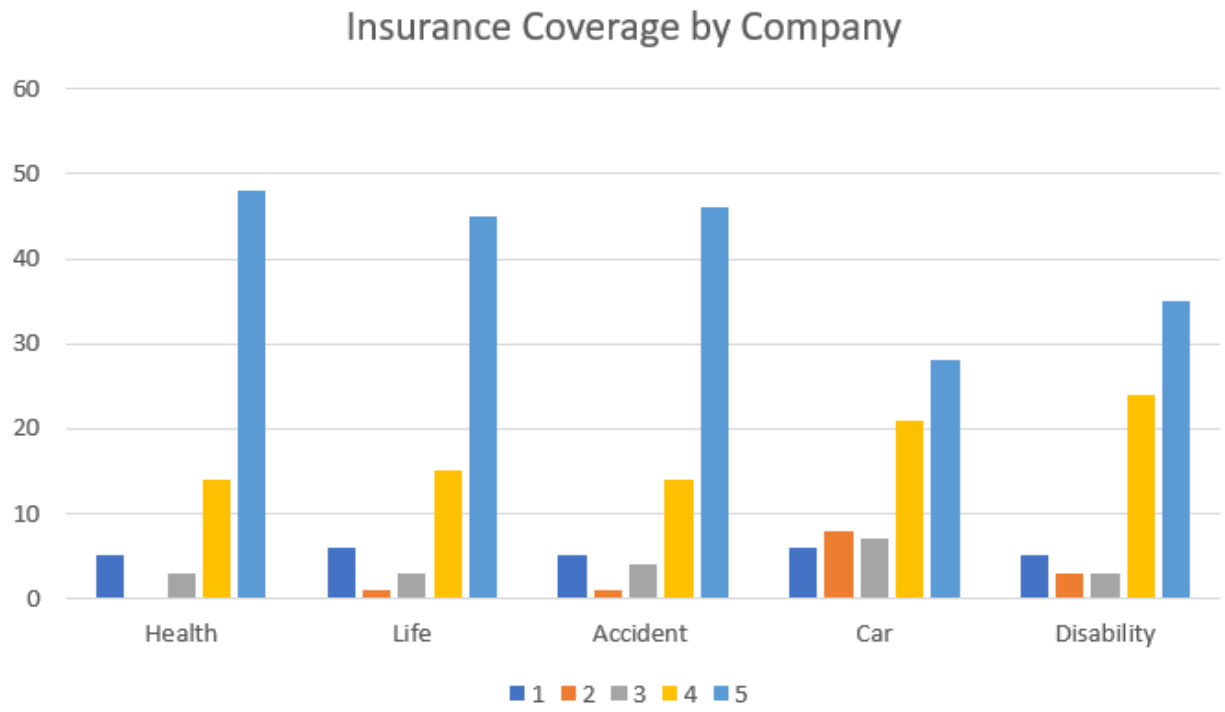

Figure 3.4.1 Insurance Coverage by Company

The scales are starting from linear scale 1 which strongly disagrees to linear scale 5 which strongly agrees. Based on the data collected from respondents, we can see that all types of insurance are mostly agreed by respondents but out of these 5 categories, health insurance has the most respondents vote for agree and above at 62 responds with 48 for strongly agree and 14 for agree. Next is accident insurance at 60 responds with 46 strongly agree and 14 agree. Life insurance has the same as responds as accident insurance but 45 strongly agree and 15 agree. 35 responds for strongly agree and 24 agree for disability insurance with a total of 59 responds and last is car insurance with 28 responds for strongly agree and 21 agree sum up to be 59 responds. Based on these results, we can understand that most employees hoped the company would protect their health and life instead of their belongings such as car insurance. We can conclude that health insurance is the most important insurance coverage that should be provided by the company.

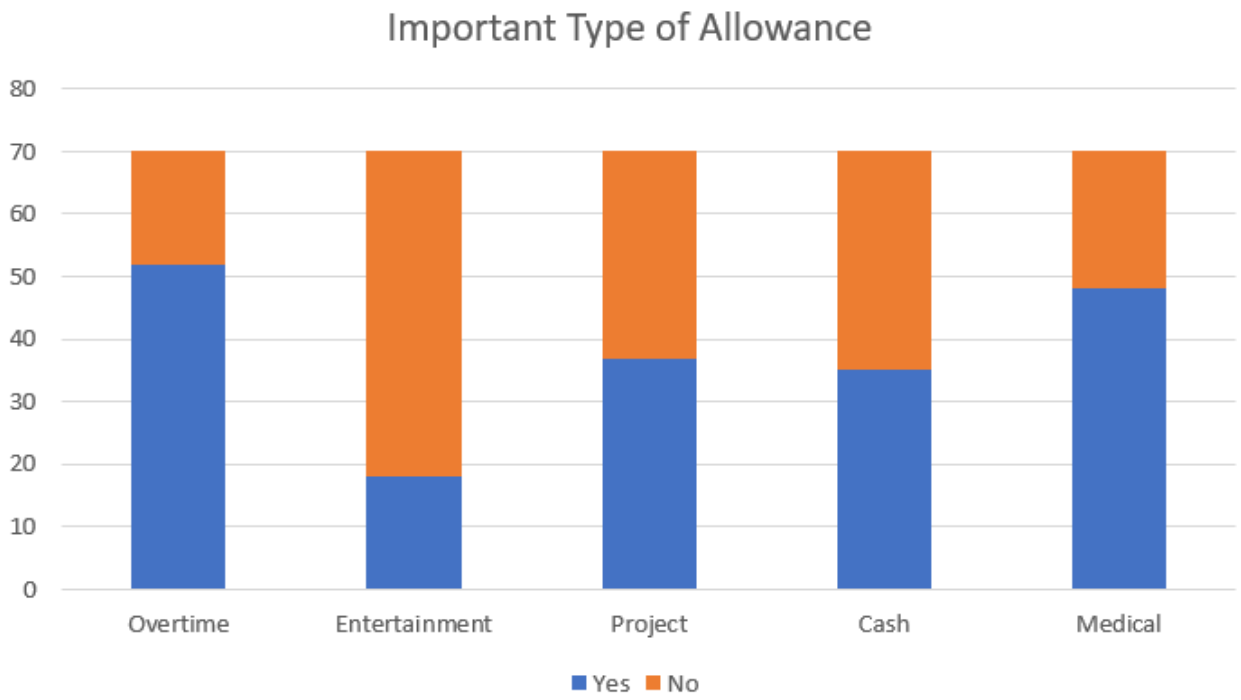

Figure 3.4.2 Important Type of Allowance

Based on the data collected from respondents, we can see that all types of insurance are mostly agreed by respondents but out of these 5 categories, Overtime has the most respondents entered to have it which means it is the most important out of all. It has 52 respondents out of 70 respondents (74%). Next is medical allowance with 48 respondents out of 70 respondents (69%). The third voted important allowance is project allowance with 37 respondents out of 70 respondents (53%). Fourth is cash with 35 respondents out of 70 respondents (50%). The least important type of allowance is entertainment allowance with 18 respondents out of 70 respondents (26%), Based on the result that we get from the survey, we can conclude that health overtime allowance is a must in a company and medical allowance is advisable to be provided by the company, whereas project allowance, cash allowance and entertainment allowance is a optional bonus.

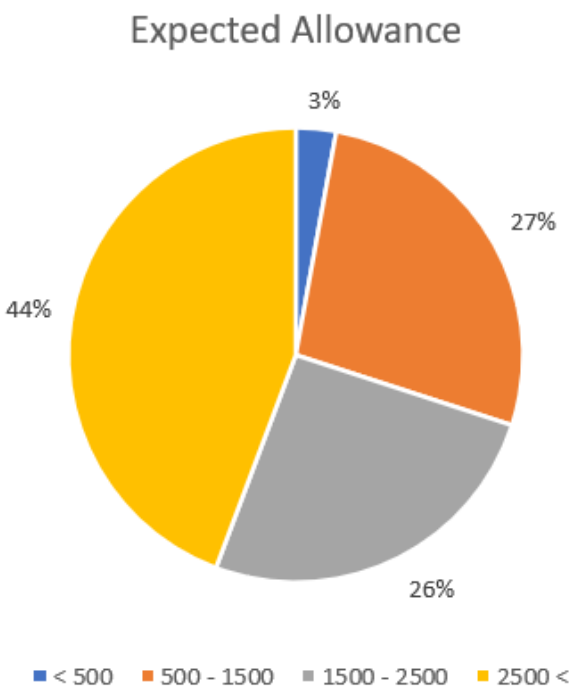

Figure 3.4.3 Expected Allowance of Respondents

Based on the 'Expected Allowance' pie chart above, it shows that the majority of the respondents expected their allowance to be higher than Rm2500 at the respondents of 31 which is 44% of the result. Second highest percentage is 27% with 19 respondents expected their allowance to be in between Rm500 to Rm1500. Second last expected allowance is Rm1500 to Rm2500 with 18 respondents at 26%. The last expected allowance only has 2 respondents with 3% of the whole pie chart which is Rm500 and below. Based on the collected data, we can conclude that allowance is very important to an individual which it can provide employees encouragement and reward them as well as thanks for the hard work contributed to the company.

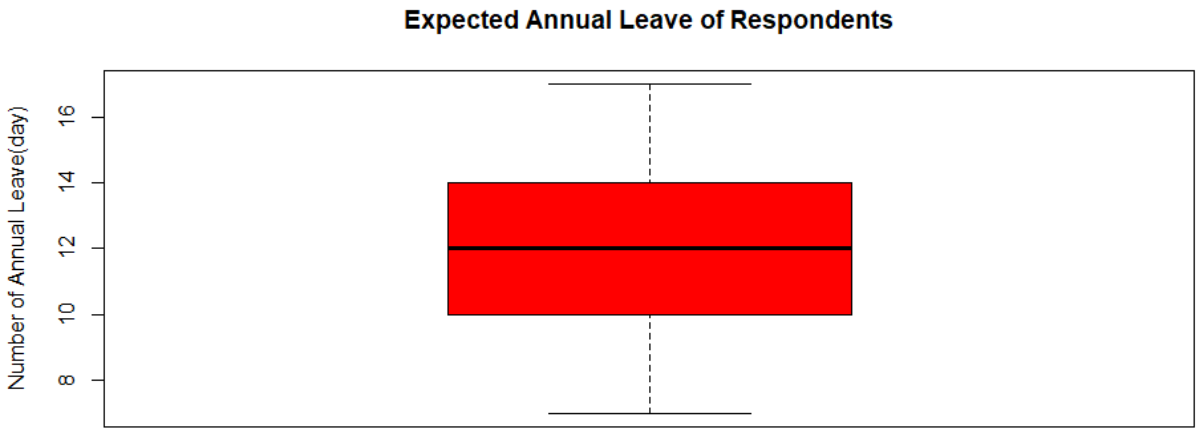

Figure 3.4.4 Expected Annual Leave of Respondents

Based on the Box plot graph of the 'Expected Annual Leave of Respondents' , we can see that the range is from 7 days to 17 days. As we know that Q1 of the graph is 10 days, Q2 which is the median of the following result is 12 days and Q3 is 14 days. The InterQuartile Range (IQR) of the entered data is 4 days. After calculation, any data entered that is above 20 days or below 6 days are considered as mild. Furthermore, any data that is above 22 days or below 4 days is considered as extreme. Based on the result of respondents, no mild or extreme data occurred. 15 days is the most entered data by respondents and the average expected annual leave is 12 days which could be interpreted into 1 annual leave per month.

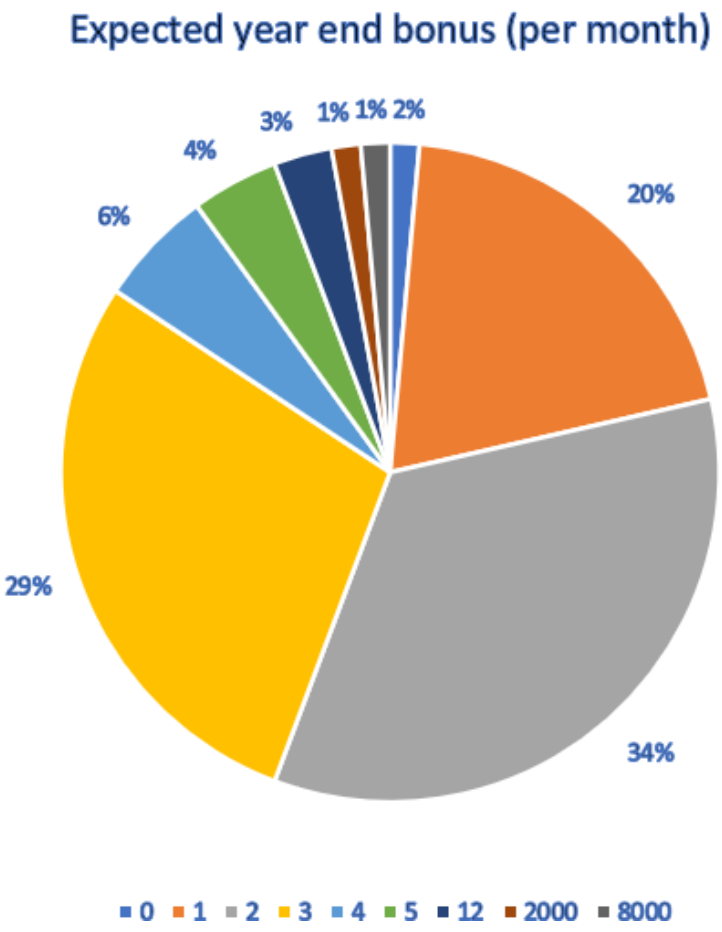

Figure 3.4.5 Expected Year End Bonus

Based on the pie chart about 'Expected Years End Bonus(per month)' , it shows that most of the entered data by respondents is 2 months as their year end bonus at 24 responds (34%). Second highest entered data is 3 months of bonus with 20 respondents (29%). Third highest has 14 respondents with 20% which entered 1 month for a year end bonus. Next, 4 months has 4 respondents with a percentage of 6% and 5months has 3 respondents with a percentage of 4%. Second last is 12 months has 2 respondents with a percentage of 3% and last is 0month where is has only 1 respondents with a percentage of 2%. Whereas the rest of 2 respondents (2%) are counted as not applicable because the data entered is not in the range and it is impossible to achieve. However, the result will be more bias towards the year end bonus with lesser months which is 2 months to 4 months

4.0 CONCLUSION

In conclusion, there are a variety of characteristics that can contribute to the formation of an ideal job. Some of the respondents prefer a better environment to work while others prefer high salary or allowance.

According to the sample that we obtained through an online survey, we noticed that some outcomes are out of our expectation. For instance, we can see that most of the respondents do not have any working experience before. This could be because they are unable to get a job during the pandemic within these few years due to safety purposes and increase in unemployment rate.

Moreover, a good environment is another main characteristic that contributes to an ideal job. A good environment that contains some of the utilities such as water dispenser, canteen and coffee dispenser are a huge add on of becoming an ideal job among university students. There could be several reasons for this, but we mainly inferred that there could be transportation issues or convenience purposes.

In addition, we also learned that salaries within RM3000 to RM5000 are largely acceptable by respondents and are also the most important characteristics of an ideal job and which is within the range of the statistic from jobstreet that the average salary of an engineer is RM3700 as most of our respondents are from faculty of engineering. Next, most of the respondents prefer to have 8 working hours a day. This is probably because most of the companies have the same default working hours.

Lastly, we found out that most of the respondents think that allowance for overtime is very important and their preferred amount of allowance is above RM2500. The reason for this is because most of the workers will stay overtime to complete their tasks within the day and some companies do not provide overtime allowance. Therefore most of them request overtime allowance to increase their salary when they have free time. 10 days of annual leave are most preferred by respondents as it is very suitable for every worker.

5.0 APPENDIX

Google form:
https://docs.google.com/forms/d/1p30skzXlchSsoKKUVAnKIENhyBsVK6RGLCaM6756Sdc/edit