

## YEAR 2007 EMPLOYMENT SURVEY OF THE INSTITUTION OF ENGINEERS, MALAYSIA

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### OVERVIEW

This report presents a summary on the Employment Survey of the Institution of Engineers, Malaysia for the year 2007, with the cut-off date of October 1, 2007. In comparison with the previously conducted 2004 survey, questions were added to give a better assessment of engineering qualification. Respondents were also asked to provide feedback on current issues.

### GENERAL FINDINGS

The latest employment survey showed that the average annual salary of engineers has increased by 18 % as compared to that from the 2004 survey. Based on employment sector, respondents from the oil/gas sector reported the highest annual salaries followed by the manufacturing sectors and the infrastructure projects. In terms of job function, respondents in the management positions reported the highest annual salaries, followed by those in contracting and sales/marketing. The graduates' average starting salary remains relatively unchanged compared with that in 2004 survey. The percentage of unemployed respondents remains low at 0.2 %.

### SURVEY SAMPLE

The 2007 survey saw a mild decrease of responses. A total of 1,305 responses were received from about 15,000 survey forms sent, representing a return rate of about 8.7 %, relatively lower than the 23 % return rate in the 2004 survey. Only 27 or 2 % of respondents were employed overseas during the time of survey.

Figures 1 to 3 show the distribution of responses by categories of discipline, IEM membership grade, discipline and sex. Figures 4 to 10 show the responses by categories of age, academic qualification, employment status, sector, job description, where qualification is obtained, and employment location.

The survey showed that over 90 % of respondents are of the opinion that fundamentals of their undergraduate course had been adequate or moderately adequate for their work. It is found that over 58 % of respondents were taught communication skills as part of their undergraduate curriculum. 6 % responded in negative to the question "Is engineering your career of choice?".

Key profiles of the survey respondents are as follows:-

- Over 50 % are Corporate Members of IEM;
- 2 % do not register with Board of Engineers Malaysia;
- 52 % belong to the civil engineering discipline;
- 93 % are male and 7 % female;
- 72 % are 50 years old or under;
- 76 % are in full employment, 19 % self-employed, and 0.2 % unemployed;
- 39 % are employed in the construction/properties sector;
- 39 % are engaged in consultancy work, and 18 % in management positions;
- 46 % are under graduate locally.

## **ANNUAL SALARY**

For the purpose of analysis, we included only respondents who are earning annual salaries of RM 300,000.00 or less. The average annual salary reported by respondents from survey 2002 (RM86,134.00) 2004 (RM92,597.00) and 2007 (RM109,597.00) are plotted in Figure 11. This shows a trend of increasing average of annual salary from 7.5 % in 2004 survey to 18 % in 2007 survey.

Average starting salaries of graduates are summarized in Table 1.

## **ANALYSES BY CATEGORIES**

Annual salaries for both local and overseas employment are analyzed according to years of experience by categories of employment sector, job description, employment status, and where qualification is obtained. Only local employments are considered in the analyses of categories of sex and academic qualification. The results are shown in Figures 12 to 17.

### ***Top-paying employment sectors***

The annual salary trend according to employment sector is shown in Figure 12. It showed that the three top-paying sectors are oil & gas, manufacturing and infrastructure projects.

### ***Management is still the top-paying job***

Analysis of annual salary by job description coincides with the 2004 survey i.e. that management is still the highest paid among all job positions, followed by sales/marketing and contracting. Figure 13 also showed that those in management positions are able to sustain their earning power as their years of experience increase.

### ***Do self-employed earn more than fully employed?***

The annual salary trend according to years of experience by employment status is shown in Figure 14. Analysis indicated that the self-employed respondents reported higher initial income. Their salaries, however, were overtaken by those in full employment when comparing beyond more than 20 years of experience. But the salary was found to dip beyond 25 years of experience. This trend coincides with the results reported in the 2004 survey.

### ***Comparison of male and female engineers***

Figure 15 showed the annual salary trend according to years of experience by sex based on results tabulated in Table 3. It shows that female engineers earn relatively less when they have 1 to 20 years of experience. However, the survey results revealed that a small group of female engineers in the 21 to 25 years of experience has average salary that rivals their male counterparts.

### ***Academic qualifications do make a difference***

Figure 16 showed the annual salaries according to years of experience by academic qualification. Interestingly, whilst respondents with a MBA degree reported the highest salaries initially with their income leveling off after 20 years of experience. Respondents with a Master or Bachelor degree enjoy steady increase of salaries beyond 30 years of experience.

### ***Does it matter where you graduated?***

The annual salaries according to years of experience by where qualifications are obtained were plotted as shown in Figure 17. The survey results showed that respondents who graduated overseas have higher initial salaries compared to those who graduated locally. Their income tends to level off after 15 years of experience. Thereafter the local graduates begin to have a higher salary.

## **COMPARISON OF OVERSEAS AND LOCAL EMPLOYMENT**

At the time of survey, 2.1 % of respondents reported employment overseas. This percentage is close to the IEM membership statistic where 2.8 % of members reside overseas; half in Miri Branch - Brunei. Salaries of overseas respondents are captured in equivalent Malaysian Ringgit in the survey form.

Figure 18 showed the salary trends of local and overseas employment based on results in Table 2. The salary range of overseas employment remains higher, although the average salary of local employment is higher, partly due to insufficient respondents, particularly those with more than 21 years of experience. At the highest count, overseas employment earns about 1.5 times that of local employment, significantly lower than the 2.2 times reported in 2004.

#### **NUMBER OF COMPANIES SERVED SINCE GRADUATION**

The number of companies served since graduation according to years of experience for all respondents is shown in Figure 19. Survey results indicated that the respondents served two companies on the average for the first five working years. This figure matched the result of the 2004 survey, although the number of companies showed a plateau close to 4 beyond 10 years of experience, which is slightly higher than the 3.5 as obtained in the 2004 survey.

#### **GRADUATES' STARTING MONTHLY SALARIES**

A total of 60 new graduates responded which is relatively higher compared to 37 in the 2004 survey. The average starting monthly salary about RM1, 998.00 showed little change from the results of the survey done in 2004. At the time of the survey, 2 % of respondents reported employment overseas. Unemployment rate stands at 0.2 % while almost 98 % of respondents are employed.

#### **PERCEPTION OF REMUNERATION, JOB SATISFACTION AND JOB CHARACTERISTICS**

In this survey, it is found that the majority of the respondents (79 %) are satisfied or very satisfied with their jobs. This percentage figure coincided with job remuneration where 60 % of respondents describe it as good or excellent.

Respondents were also asked to describe their jobs on a 5-point scale as challenging, rewarding, stressful, and competitive. The findings are summarised below:-

- Over 85 % respondents perceive their jobs as very challenging or challenging;
- 77 % perceive their jobs as very stressful or stressful;
- 79 % perceive their jobs as very competitive or competitive, and;
- 62 % perceive their jobs as very rewarding or rewarding.

#### **SURVEY ON FEMALE ENGINEERS**

Figure 13 showed the perception of female engineers on several issues related to their job and working. The findings are summarised below:-

- 84 % respondents responded in the affirmative to the question “Do you have the confidence to make decision at meeting or to be able to give instructions at project sites?”;
- 62 % respondents responded in the affirmative to the question “Are you given the opportunity to handle high profile projects?”;
- 35 % respondents responded in the affirmative to the question “Have you ever carried out standing supervision at site from a few months to more than a year?”;
- Over 50 % respondents found difficulties for people (e.g. clients, other professionals in the same project team or contractors) to accept their professional opinion;
- 73 % respondents considered themselves independent individual;

- 85 % respondents responded in negative to the question “Does your superior deprive you of attending any meetings?”;
- 61 % respondents found their professional opinions accepted regardless of their gender;
- 36 % respondents experienced sexual discrimination;
- 10 % respondents experience sexual harassment.

## **SURVEY ON CURRENT ISSUES**

As part of the 2007 Employment Survey, several questions were aimed at assessing the perception of the respondents on current engineering related issues.

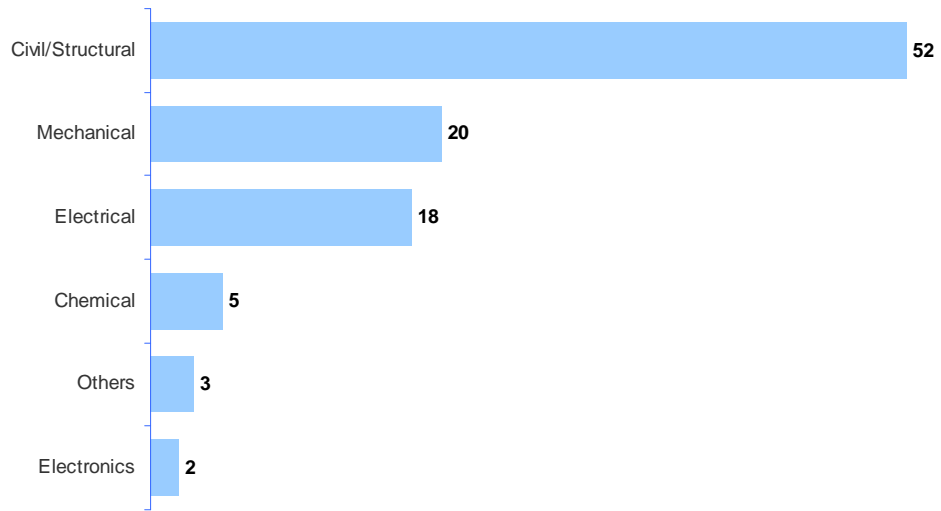
In figure 22, the response of local employment competitiveness yielded a consistent result from the start. With regards to remuneration, 80 % of respondents strongly agreed to the statement that the “Engineer in Malaysia earn relatively lower pay”. This is followed by 66 % of respondents who strongly agreed to the statement “To remain competitive Malaysian companies generally offer lower pay to engineers”. 59 % of respondents then strongly agreed that “University training/syllabuses are outdated, thus mismatched with current job requirements”.

Figure 23 showed the perception of current job market and competitiveness of Malaysian engineers. It revealed some interesting views. With regards to shortage of employees, 59 % respondents responded negatively to the question “Is there a shortage of certain engineering disciplines?” thus concurring with the result where 69 % of respondents agree to the question “Is there a surplus of certain engineering disciplines?”.

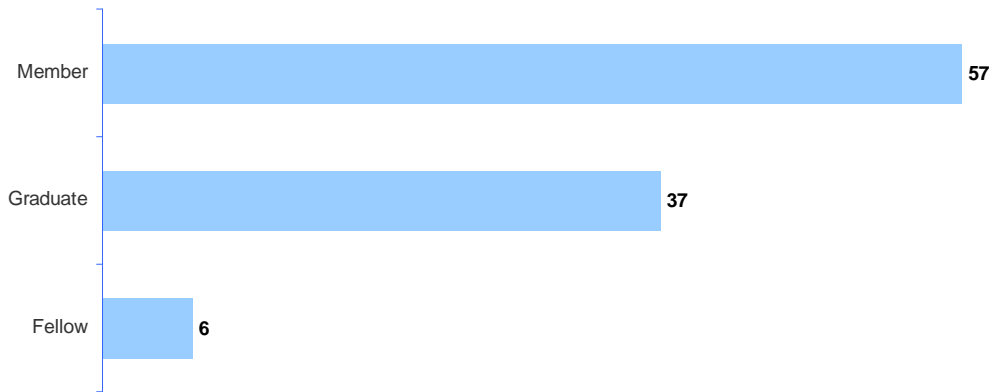
On other matters, over 95 % of respondents are in the affirmative to the question “Should Professional Ethics be taught in Universities?”. 73 % of respondents are affirmative to the question “Universities require students to master 1 additional global language besides English so as to improve their job competitiveness”.

The results suggested that while there is no apparent shortage in the current job market, job remuneration and academic training remained relevant to overall competitiveness in engineering disciplines.

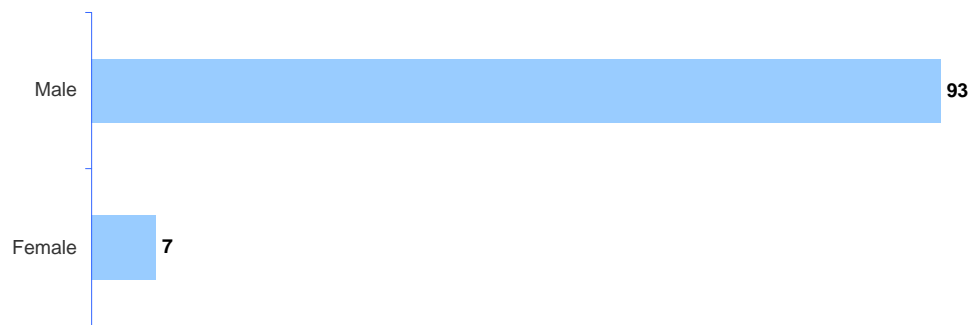
**Figure 1: Response (%) by Discipline**



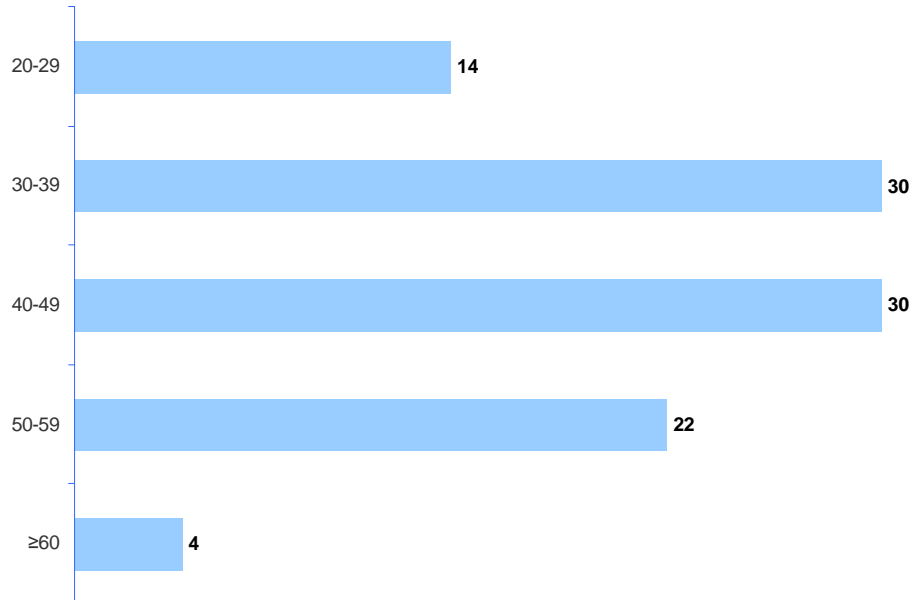
**Figure 2: Response (%) by IEM Membership Grade**



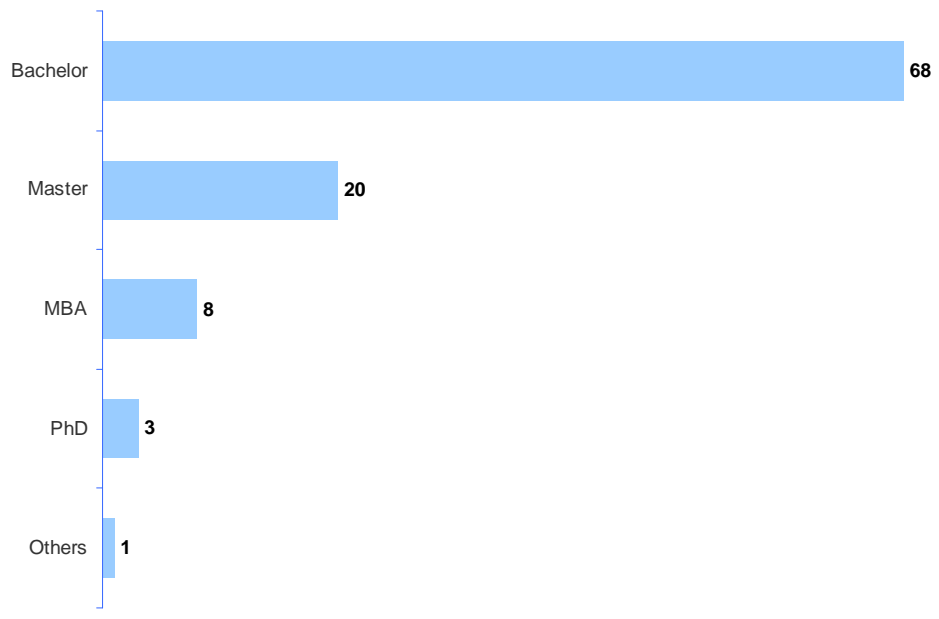
**Figure 3: Response (%) by Sex**



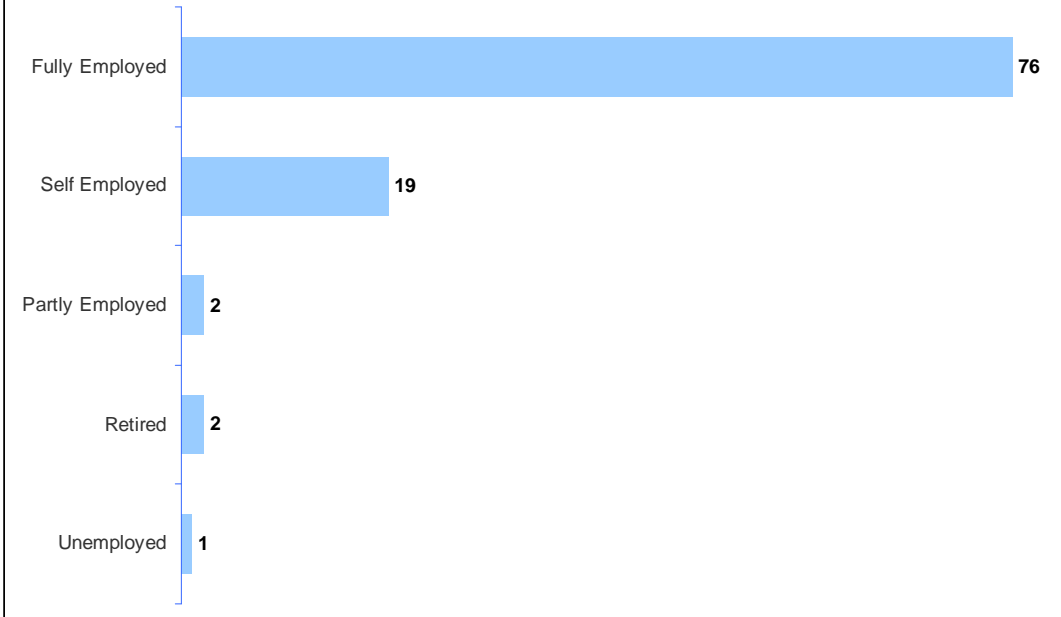
**Figure 4: Response (%) by age (years)**



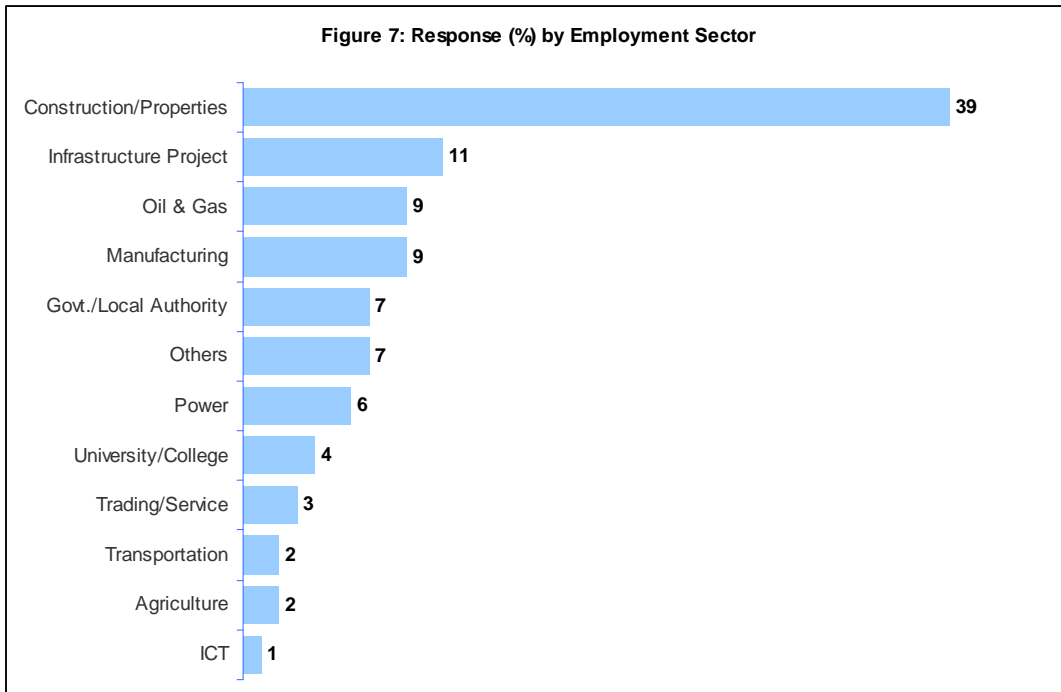
**Figure 5: Response (%) by Academic Qualification**



**Figure 6: Response (%) by Employment Status**



**Figure 7: Response (%) by Employment Sector**



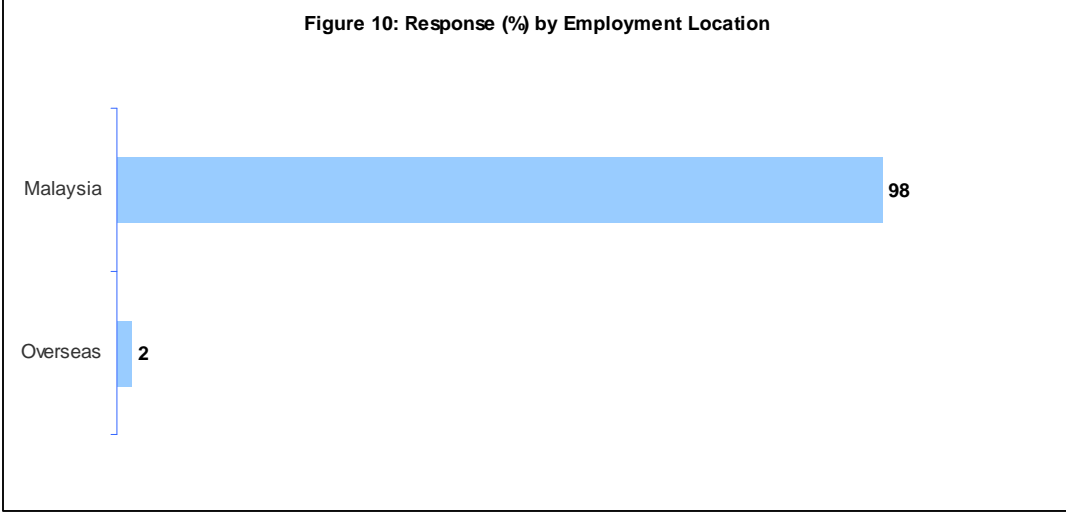
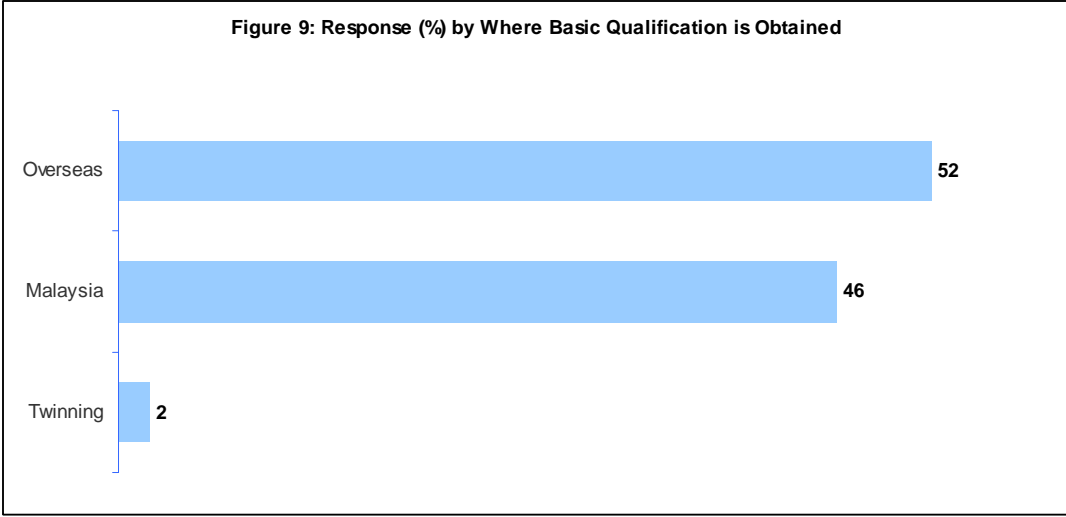
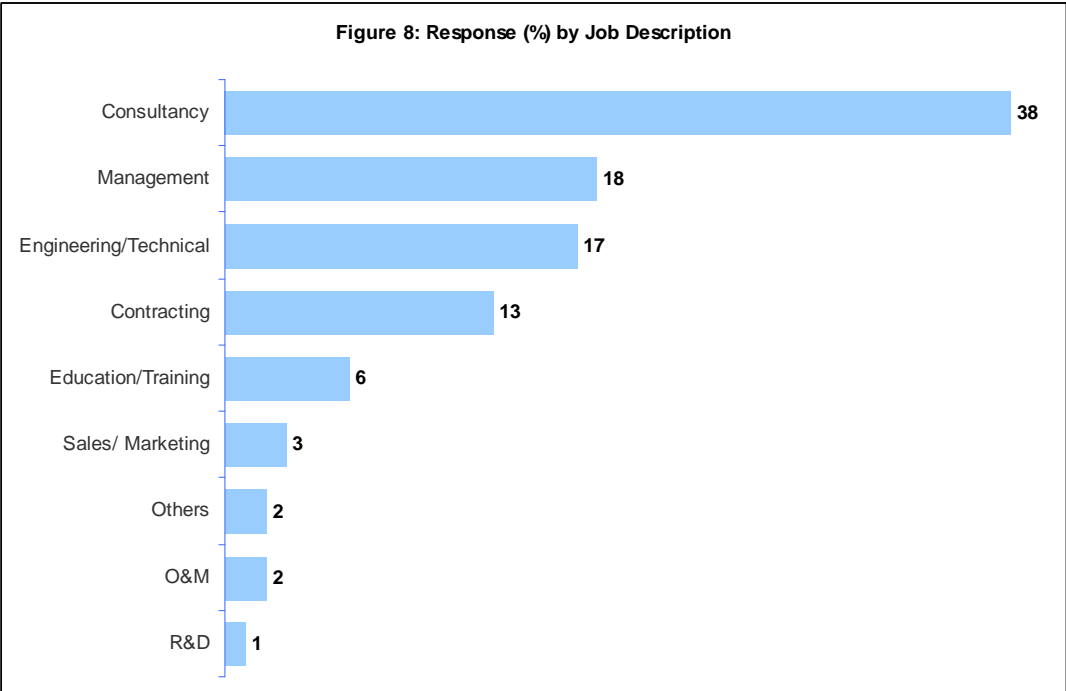




Figure 11: Average Annual Salary of 2002, 2004, 2007

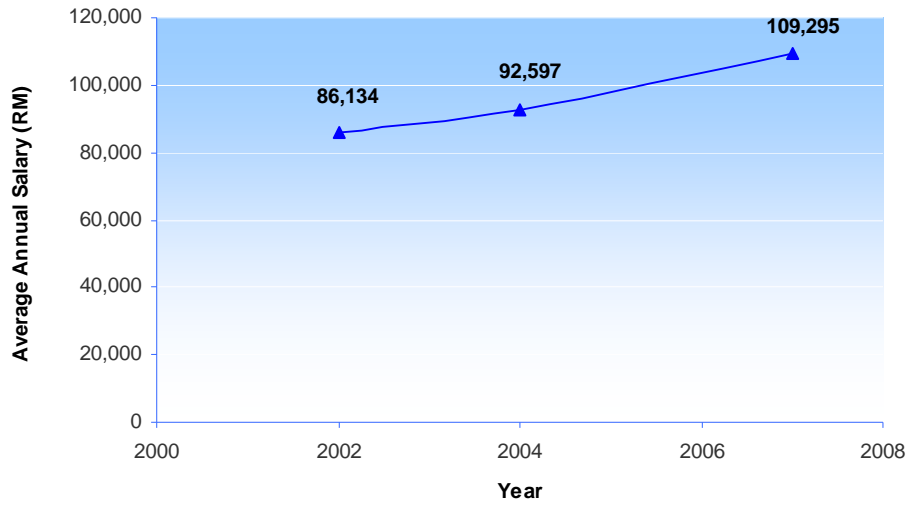


Figure 12: Annual Salary According to Years of Experience by Employment Sector

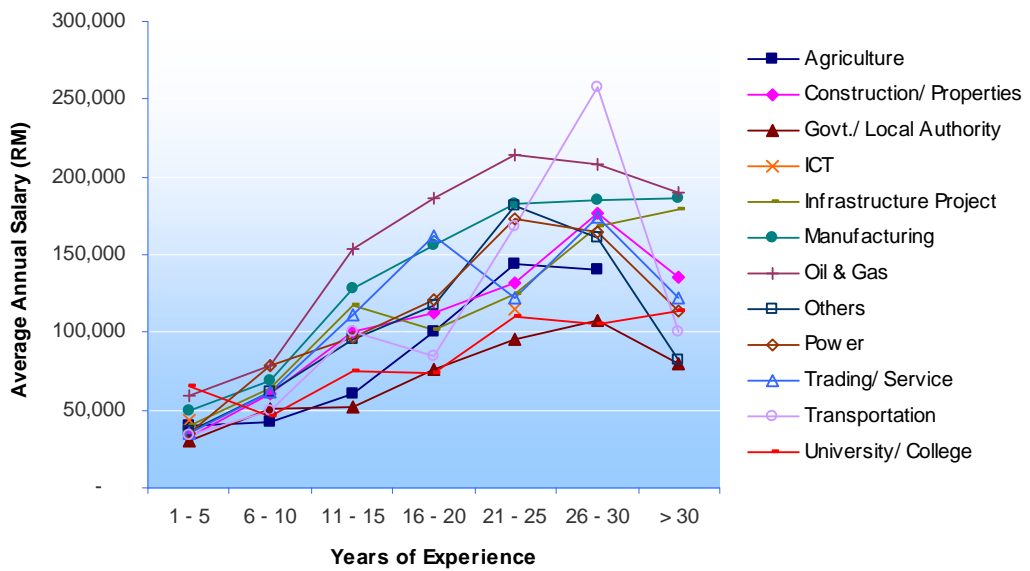


Figure 13: Annual Salary According to Years of Experience by Job Description

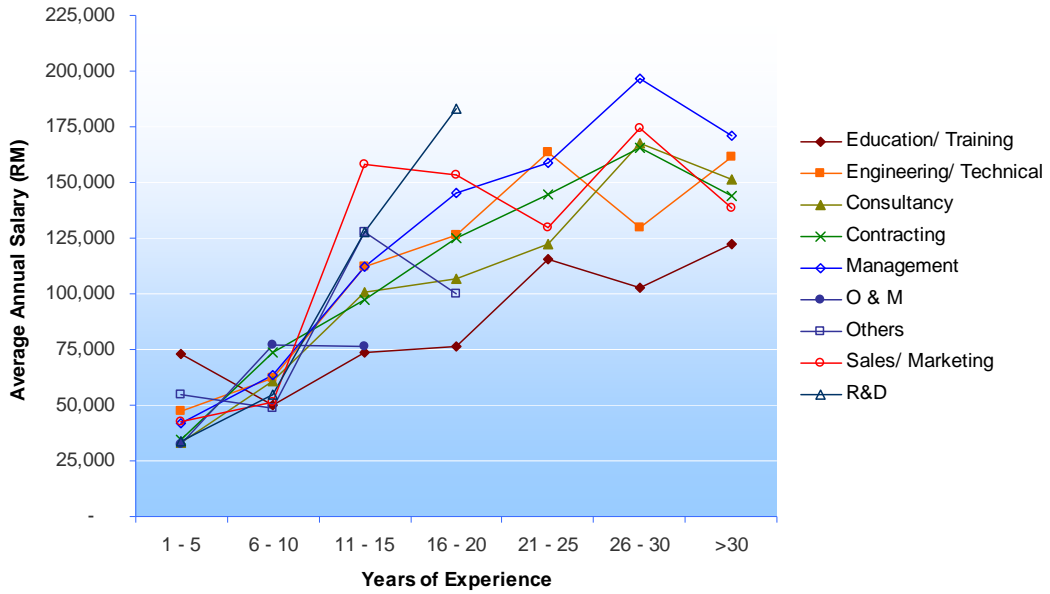


Figure 14: Annual Salary According to Years of Experience by Employment Sector

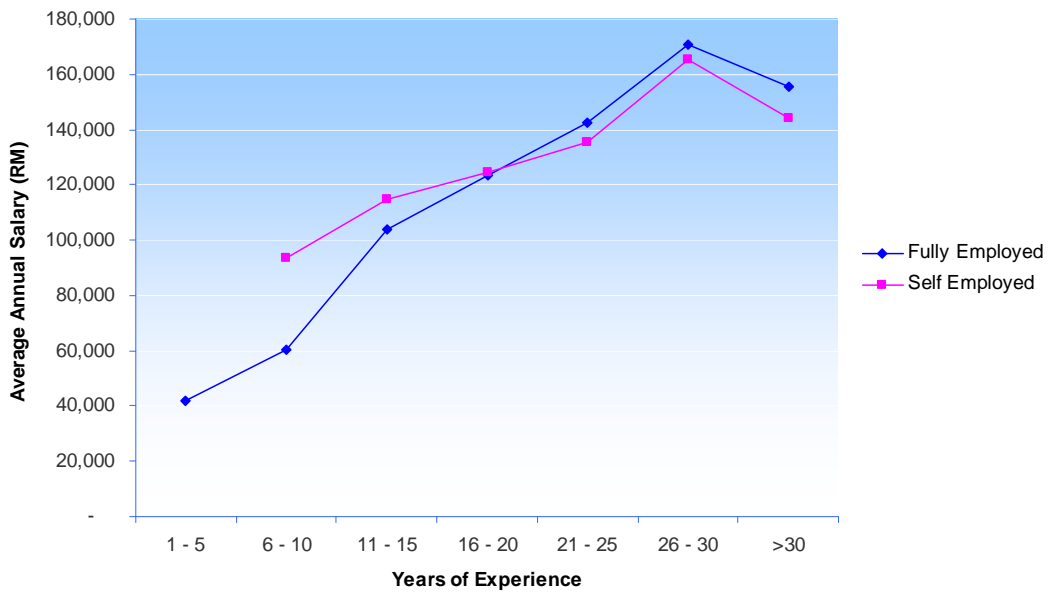


Figure 15: Annual Salary According to Years of Experience by Sex

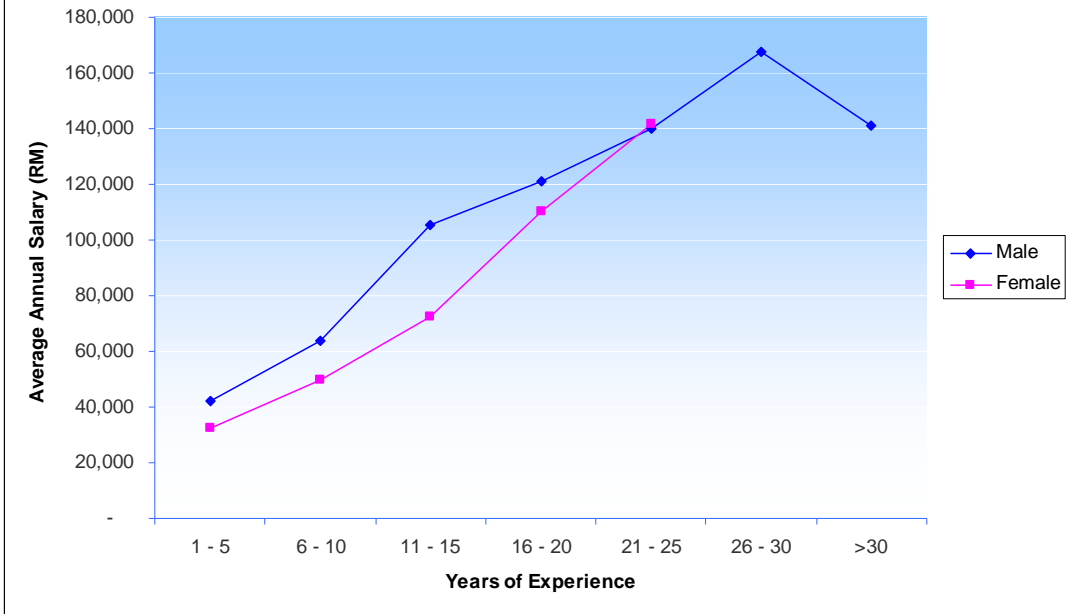


Figure 16: Annual Salary According to Years of Experience by Academic Qualification

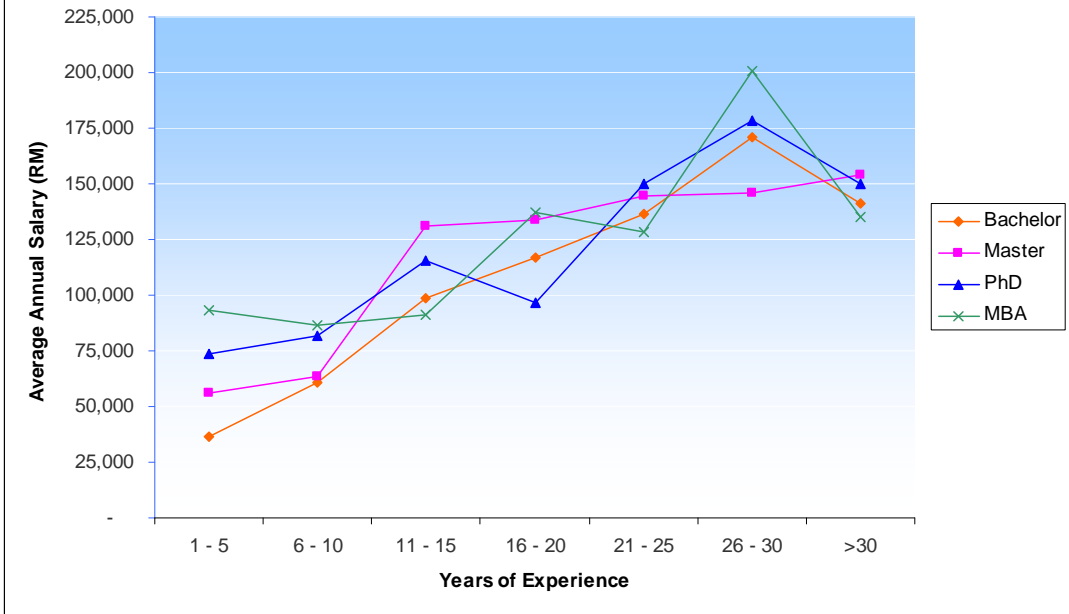


Figure 17: Annual Salary According to Years of Experience by Where Qualification is Obtained

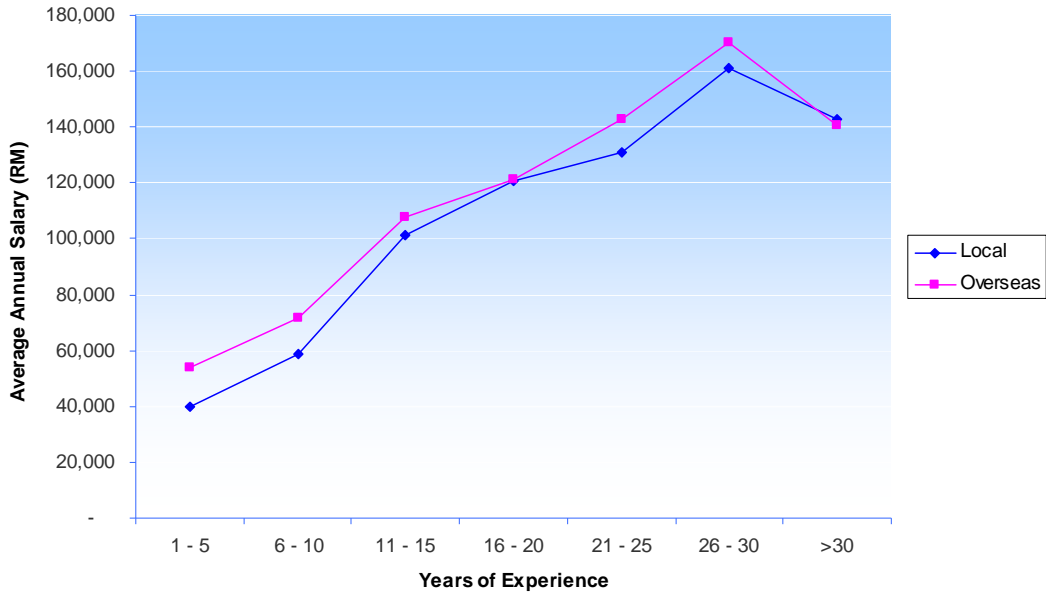
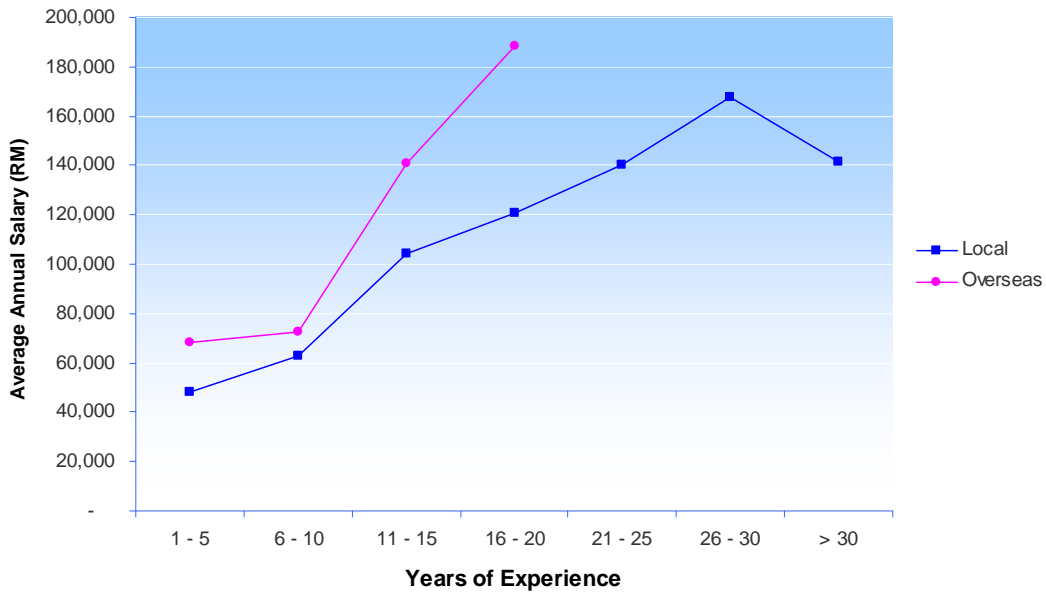
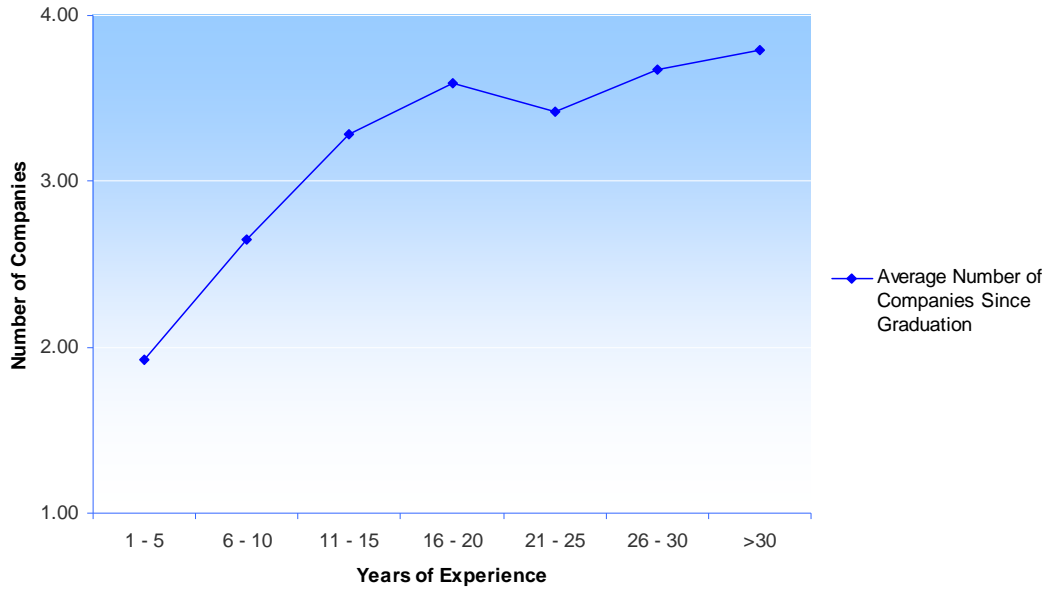


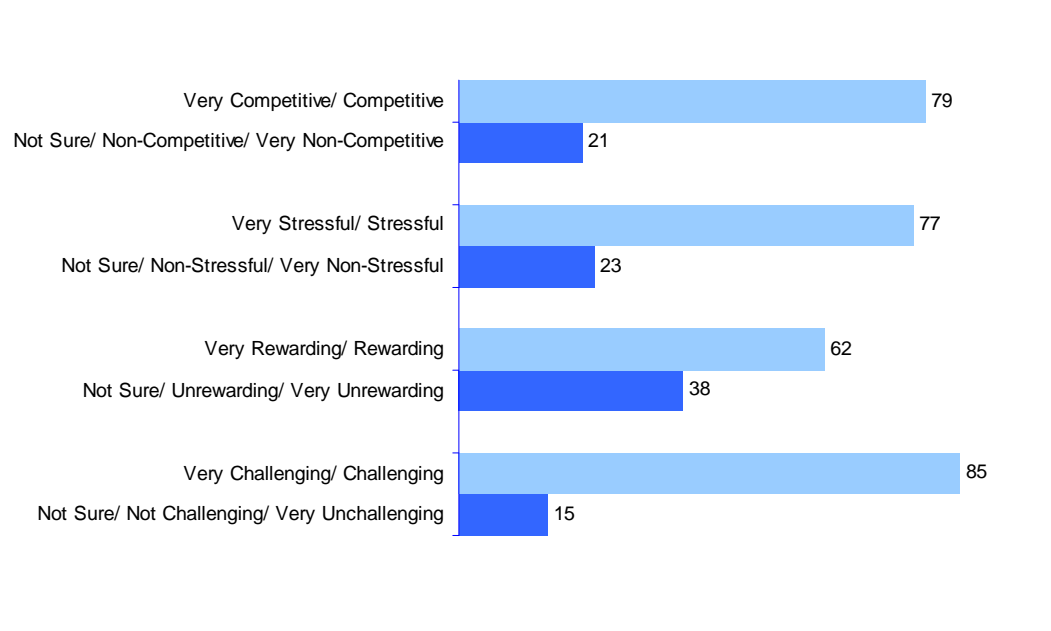
Figure 18: Annual salary according to years of experience by employment location

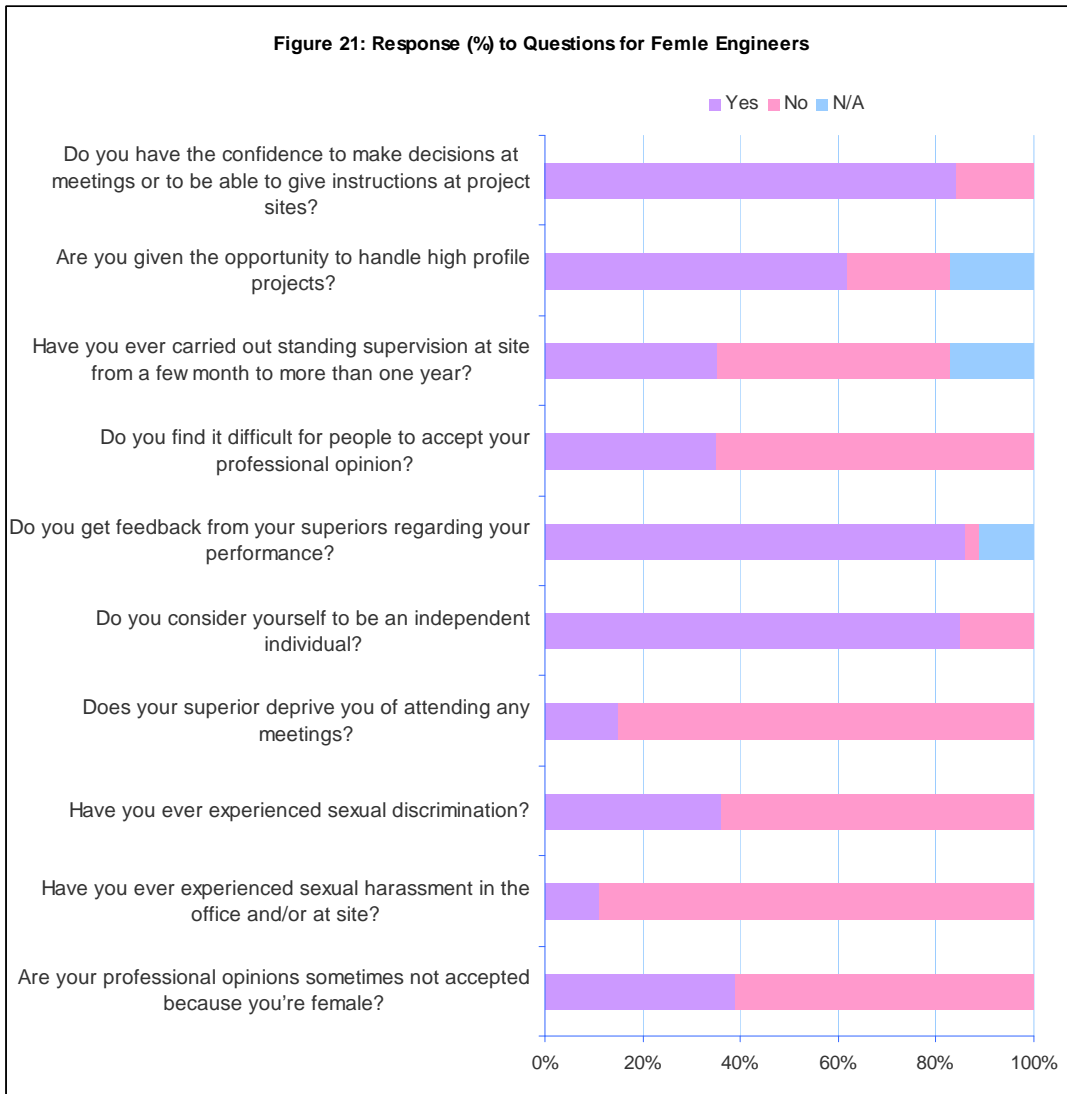


**Figure 19: Number of Companies Since Graduation according to Years of Experience**



**Figure 20: Perception of Job Characteristics (%)**





**Table 1: Average Starting Salary of Graduates**

Employment Sector	Count	Average Starting Salary
All	60	1998
Construction/ Properties	30	1930
Govt./ Local Authority	2	2245
Infrastructure Project	3	1900
Manufacturing	3	2100
Oil & Gas	5	2350
Others	5	1750
Power	7	2090
Trading/ Service	4	2250
University/ College	1	1400

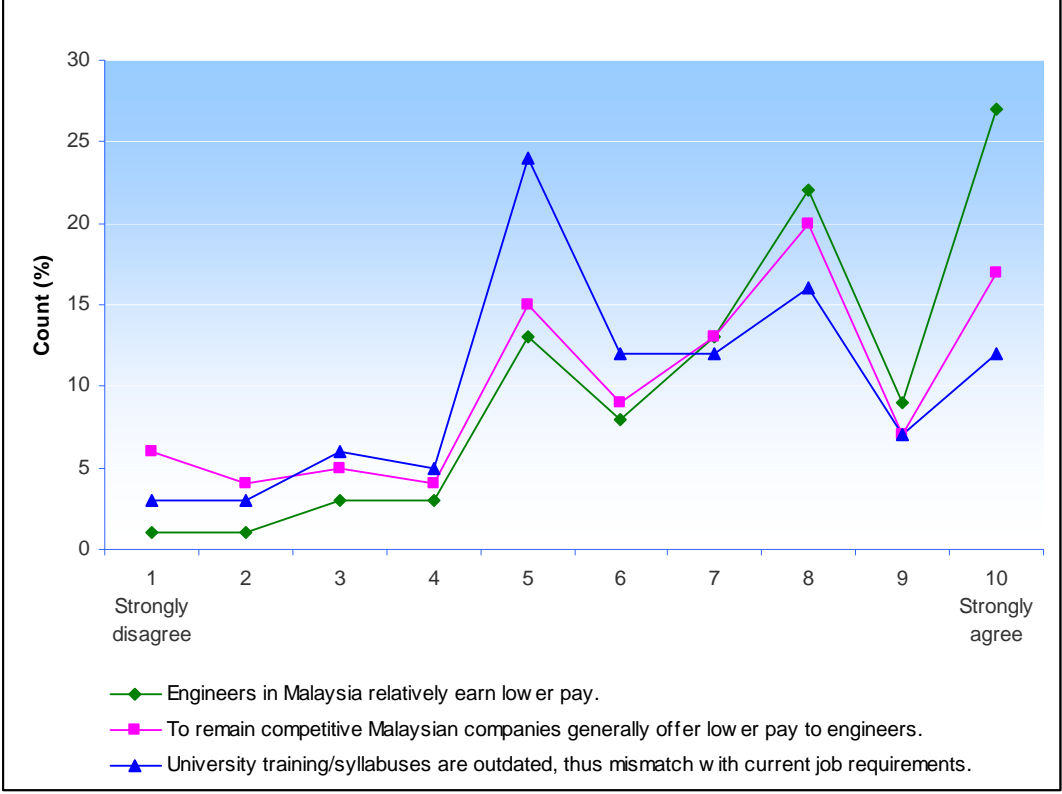
**Table 2: Average annual Salary according to years of experience by employment location**

Yrs Exp.	Local Employment				Overseas Employment			
	Count	Min. Salary	Max. Salary	Avg. Salary	Count	Min. Salary	Max. Salary	Avg. Salary
All Yrs.	1199	11,688	500,000	110,011	26	24,000	331,200	87,807
1 to 5	148	12,000	426,000	48,312	5	24,000	120,000	68,116
6 to 10	221	18,000	360,000	62,554	8	45,000	120,000	72,275
11 to 15	165	19,821	308,000	104,008	3	135,000	150,000	141,000
16 to 20	224	11,688	360,000	120,441	5	80,000	331,200	188,240
21 to 25	179	30,000	500,000	140,238	2	-	-	-
26 to 30	177	30,000	500,000	167,518	1	-	-	-
>30	85	20,000	450,000	141,600	2	-	-	-

**Table 3: Average annual salary according to years of experience by sex**

Yrs Exp.	Local Employment							
	Male Engineers				Female Engineers			
	Count	Min. Salary	Max. Salary	Avg. Salary	Count	Min. Salary	Max. Salary	Avg. Salary
All Yrs.	1113	11,688	500,000	112,228	79	14,700	300,000	65,380
1 to 5	118	12,000	426,000	42,393	27	14,700	48,000	32,679
6 to 10	198	18,000	360,000	64,025	22	24,000	97,800	49,725
11 to 15	157	19,821	250,000	105,623	8	36,000	120,000	72,325
16 to 20	208	11,688	360,000	121,243	16	72,000	160,000	110,013
21 to 25	172	30,000	500,000	139,841	6	84,000	300,000	141,667
26 to 30	177	30,000	500,000	167,518	-	-	-	-
> 30	83	20,000	450,000	141,277	-	-	-	-

**Figure 22: Response to Local Employment Competitiveness**



**Figure 23: Response (%) to Current Hot Issues**

