

IEM EMPLOYMENT SURVEY 2019



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The IEM Employment Survey was conducted between 1 and 29 February 2020. A total of 1379 IEM members responded. After data cleaning, a total of 728 respondents were included for further analysis. The respondents excluded were mainly due to incomplete information, unreliable information, students, those working abroad, the self-employed and retirees. The analysis included those who were currently working as engineers (aged 21-65) in Malaysia.

Table 1 is a summary of the respondents' profile. It was noted that 66% (479/728) of the respondents were aged 40 and below and who were working engineers. Of the total number of respondents, 88% (642/728) were male. Selangor topped the list with 42.9% (312/728) working respondents, followed by Kuala Lumpur (15.4%) and Sarawak (7.7%).

Table 1: Profile of respondents

Age Group	Number of respondents	Percentage distribution
21-25	20	3%
26-30	127	17%
31-35	195	27%
36-40	137	19%
41-45	96	13%
46-50	59	8%
51-55	38	5%
56-60	38	5%
61-65	18	2%
Total	728	100%
Gender		
Male	642	88%
Female	86	12%
Total	728	100%
State (Working location)		
Selangor	312	42.9%

Kuala Lumpur	112	15.4%
Sarawak	56	7.7%
Johor	44	6.0%
Sabah	42	5.8%
Penang	40	5.5%
Negeri Sembilan	32	4.4%
Perak	31	4.3%
Melaka	16	2.2%
Kedah	12	1.6%
Terengganu	9	1.2%
Pahang	7	1.0%
Putrajaya	7	1.0%
Kelantan	5	0.7%
Labuan	2	0.3%
Perlis	1	0.1%
Total	728	100%

Table 2: IEM Membership information

IEM membership by grade	Number of respondents	Percentage distribution
Graduate Member	357	49.0%
Member	315	43.3%
Companion	15	2.1%
Incorporated Member	15	2.1%
Associate Member	10	1.4%
Fellow	8	1.1%
Senior Member	4	0.5%
Affiliate Member	3	0.4%
Honorary Member	1	0.1%
Total	728	100%

Registration with Board of Engineers Malaysia		
Graduate Engineer	372	51.1%
Professional Engineer	173	23.8%
Professional Engineer with Practising Certificate	155	21.3%
Engineering Technologist	5	0.7%
Inspector of Works	2	0.3%
None	21	2.9%
Total	728	100%
Engineering Consultancy Practices (Board of Engineers Malaysia)		
Sole Proprietor	45	6%
Body Corporate	44	6%
Multi-disciplinary Practice	40	5%
Partnership	33	5%
None	566	78%
Total	728	100%

Table 2 shows that 49% (357/728) of respondents were Graduate Members of IEM and 51.1% (372/729) were Graduate Engineers. However, only 22% (162/728) had engineering consultancy practices.

Table 3: Distribution by Industry and MASCO (Malaysia Standard Classification of Occupations)

Industry	Number of respondents	Percentage distribution
Construction	229	31.5%
Professional, scientific & technical activities	112	15.4%
Other service activities	75	10.3%
Electricity, gas, steam & air-conditioning supply	46	6.3%
Manufacturing	43	5.9%
Education	35	4.8%

Water supply, sewerage, waste management & remediation activities	20	2.7%
Real estate activities	15	2.1%
Mining & quarrying	13	1.8%
Information & communication	8	1.1%
Transportation & storage	8	1.1%
Administrative & support service activities	6	0.8%
Wholesale & retail trade, repair of motor vehicles & motorcycles	5	0.7%
Agriculture, forestry & fishing	4	0.5%
Financial & insurance/takaful activities	2	0.3%
Accommodation & food service activities	1	0.1%
Arts, entertainment & recreation	1	0.1%
No response	105	14.4%
Total	728	100%

MASCO (2 digit)

21 - Science & Engineering Professionals	474	65.1%
11 - Chief Executives, Senior Officials & Legislators	74	10.2%
12 - Administrative & Commercial Managers	61	8.4%
13 - Production & Manufacturing Managers	46	6.3%
25 - Information & Communications Technology Professionals	24	3.3%
31 - Science & Engineering Associate Professionals	18	2.5%
24 - Business & Administration Professionals	12	1.6%
16 - Services Managers	6	0.8%

15 - Information & Communications Technology Managers	3	0.4%
23 - Teaching Professionals	2	0.3%
33 - Business & Administration Associate Professionals	2	0.3%
14 - Hospitality, Retail & Other Services Managers	1	0.1%
26 - Legal Professionals	1	0.1%
28 - Social & Cultural Professionals	1	0.1%
34 - Legal Associate Professionals	1	0.1%
35 - Information & Communications Technicians	1	0.1%
76 - Other Craft Workers	1	0.1%
Total	728	100%

Table 4: Education Attainment

Qualification	Number of respondents	Percentage distribution
Degree	484	66%
Master	189	26%
PhD	35	5%
Others (STPM, Certificate, Diploma, Advanced Diploma)	11	2%
No response	9	1%
Total	728	100%

Table 3 shows that 31.5% of the respondents (229/728) were working in the construction industry in Malaysia, followed by 15.4% (112/728) in professional, scientific and technical activities industry. It also indicated that construction, professional, scientific & technical activities, other service activities, electricity, gas, steam & air-conditioning supply and manufacturing were the top 5 industries which provided job opportunities for engineers.

By referring to the distribution by Malaysia Standard Classification of Occupations (MASCO), 65.1% of the respondents (474/728) were working as Science &

Engineering Professionals (MASCO 21), followed by 10.2% (74/728) as Chief Executives, Senior Officials and Legislators (MASCO 11). There were 8.4% (61/728) working as Administrative and Commercial Managers (MASCO 12), 6.3% (46/728) as Production & Manufacturing Managers (MASCO 13) and 3.3% (24/728) as Information & Communications Technology Professionals (MASCO 25).

Table 4 shows that 96% (708/728) of the respondents obtained at least a bachelor degree qualification and above.

From Table 5, the top 5 industries with the highest median monthly basic salary were 1) Transportation & storage, 2) Information & communication, 3) Electricity, gas, steam & air-conditioning supply, 4) Other service activities and 5) Professional, scientific & technical activities.

To ensure the reliability of the results, the analysis focused on the category with minimum number of respondents at 20 and above. The survey also shows that median for monthly basic and total salary for MASCO 21 - Science & Engineering Professionals (Basic: RM5,500, Total: RM6,200) and MASCO 25 - Information & Communications Technology Professionals (Basic: RM5,050, Total: RM5,600) fall below the aggregate median for monthly basic (RM6,500) and total (RM7,270) salary. This implied that the monthly median basic and total salary for these 2 categories was below the aggregate median (of monthly basic and total salary of overall respondents - engineers).

Similarly, engineers working in Johor (Basic: RM6,207, Total: RM7,007), Perak (Basic: RM5,500, Total: RM6,000), Negeri Sembilan (Basic: RM6,100, Total: RM6,245), Penang (Basic: RM6,025, Total: RM6,750) and Selangor (Basic: RM6,318, Total: RM7,025) were receiving monthly median basic and total salaries less than the median for monthly basic (RM6,500) and total (RM7,270) salary for engineers as a whole (Table 5).

With the exception of Kuala Lumpur, it was found that engineers who were working in states where economic development was concentrated (i.e., Selangor, Penang, Johor, Negeri Sembilan and Perak) received a monthly median salary below than the national median salary (assuming the overall survey was well-representative of all engineers in Malaysia).

Table 5 shows that the average number of working hours per week ranged between 45 and 49 (for occupations with number of respondents of 20 and above). This shows that on average, engineers worked overtime for 5-9 hours per week.

Table 6 shows that engineering was the career choice for 95% of respondents. Only 15% were paid for overtime, 72% felt that the salary of engineers was not reasonable, 7% reported dissatisfaction with their job, 69% received encouragement to attain Professional Engineer status and 20% intended to move away from engineering as a career.

Table 5: Monthly Salary Information and Working Hours per Week

	Median Monthly Allowance (RM)	Median Monthly Basic Salary (RM)	Median Monthly Total Salary (RM)	Average Working Hours per Week
Overall	235	6,500	7,270	45
Age Group				
21-25	150	5,519	6,000	49
26-30	150	6,000	6,933	44
31-35	250	7,000	7,800	45
36-40	300	6,200	7,000	45
41-45	235	7,000	8,025	44
46-50	200	6,000	6,500	40
51-55	0	7,000	8,050	45
56-60	300	8,300	9,850	45
61-65	250	5,749	6,598	42
Qualification				
Degree	205	6,500	7,325	45
Master	250	6,000	6,500	45
PhD	180	7,700	8,500	45
Others	550	6,000	7,450	45
Industry				
Accommodation & food service activities	0	6,000	6,000	45
Administrative & support service activities	275	5,350	5,950	48
Agriculture, forestry & fishing	1675	6,050	7,725	40
Arts, entertainment & recreation	2000	6,800	8,800	50
Construction	250	6,100	7,000	45
Education	400	6,000	7,000	42
Electricity, gas, steam & air-conditioning supply	500	8,000	8,650	48
Financial & insurance/takaful activities	0	6,750	6,750	50
Information & communication	750	8,750	9,650	45
Manufacturing	100	5,500	6,000	44
Mining & quarrying	0	6,500	6,500	45
Other service activities	300	7,000	8,000	45
Professional, scientific & technical activities	200	6,900	7,435	41
Real estate activities	80	6,300	6,380	43
Transportation & storage	663	11,000	12,513	40
Water supply, sewerage, waste management & remediation activities	298	5,800	6,750	45
Wholesale & retail trade, repair of motor vehicles & motorcycles	0	3,500	3,500	40

Table 5: Monthly Salary Information and Working Hours per Week (Continue)

	Median Monthly Allowance (RM)	Median Monthly Basic Salary (RM)	Median Monthly Total Salary (RM)	Average Working Hours per Week
State				
Johor	338	6,207	7,007	45
Kedah	100	4,800	5,000	44
Kelantan	0	10,000	10,000	50
Kuala Lumpur	300	7,325	7,593	45
Labuan	0	15,500	15,500	44
Melaka	290	4,750	5,450	45
Negeri Sembilan	230	6,100	6,425	49
Pahang	0	6,000	8,100	44
Perak	250	5,500	6,000	45
Perlis	2600	32,500	35,100	44
Penang	150	6,025	6,750	45
Putrajaya	1300	6,500	8,000	45
Sabah	250	7,900	8,400	45
Sarawak	150	8,000	8,250	43
Selangor	250	6,318	7,025	44
Terengganu	200	10,000	10,000	40
MASCO				
11 - Chief Executives, Senior Officials & Legislators	250	10,000	10,900	48
12 - Administrative & Commercial Managers	350	10,000	10,500	40
13 - Production & Manufacturing Managers)	500	9,000	9,875	48
14 - Hospitality, Retail & Other Services Managers	0	6,000	6,000	45
15 - Information & Communications Technology Managers	0	6,500	6,500	50
16 - Services Managers	1500	14,965	16,088	40
21 - Science & Engineering Professionals	200	5,500	6,200	45
23 - Teaching Professionals	4750	7,000	11,750	45
24 - Business & Administration Professionals	450	5,100	5,350	45
25 - Information & Communications Technology Professionals	50	5,050	5,600	40
26 - Legal Professionals	0	20,000	20,000	50
28 - Social & Cultural Professionals	0	23,000	23,000	39
31 - Science & Engineering Associate Professionals	300	6,000	7,250	40
33 - Business & Administration Associate Professionals	2075	9,200	11,275	55
34 - Legal Associate Professionals	0	3,000	3,000	50
35 - Information & Communications Technicians	120	9,000	9,120	40
76 - Other Craft Workers	0	10,000	10,000	84
Gender				
Male	250	6,500	7,395	45
Female	200	6,050	6,440	45

Table 6: Feedback on Welfare Aspects (Total respondents: 618)
 Note: Only 618 of the 728 respondents responded to the questions for this section.

	Number of respondents	Percentage of distribution
Is engineering your career choice?		
No	33	5%
Yes	585	95%
Are you paid for overtime work?		
No	528	85%
Yes	90	15%
Are engineers' salaries reasonable?		
No	447	72%
Yes	171	28%
How do you perceive your job?		
Dissatisfied	42	7%
Neither satisfied nor dissatisfied	151	24%
Satisfied	338	55%
Very dissatisfied	16	3%
Very satisfied	71	11%
Did you receive encouragement to attain Professional Engineer status?		
No	193	31%
Yes	425	69%
Do you intend to move away from engineering?		
No	496	80%
Yes	122	20%

CONCLUSION

Based on the sample size of minimum respondents of at least 20 and above, it was found that the median monthly total salary was generally higher for those in the older age group. This implied that working experience played a vital role in salary growth. Besides, it was observed that the rate of investment for education was worth it only when complemented with working experience.

This was reflected in the low minimum monthly basic salary received by entry level employees with PhD (RM2,800), Master (RM2,000) and Degree (RM1,500) qualifications. The minimum monthly total salary for entry level employees with PhD, Master and Degree qualification were RM3,000, RM2,000 and RM1,800 respectively.

This could be one of the reasons for dissatisfaction among engineers who had invested in education. From the survey, it was found that 72% (447/618) of the respondents stated that the salary for engineers was not reasonable (Table 6). ■

Authors' Biodata

Ir. Dr Tan Chee Fai is currently the Chairman of Standing Committee on Admission and Practical Training Session 2020/2021 and he was also, the Chairman of Standing Committee on Welfare and Service Matters Session 2019/2020.

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