

## **CHAPTER V**

### **CONCLUSION**

This chapter concludes the study on the job satisfaction of engineers in consulting firms. It presents a summary of the research results, some implications of the study, some recommendations on improving the job satisfaction of consulting engineers, and some suggestions for further research.

#### **Research Results and Some Implications**

From the analyses carried out, it appears that it would be possible to improve the job satisfaction of consulting engineers. The implications of the research results are discussed below.

##### **Respondents' Job Satisfaction Level and Job Behaviour**

In terms of the respondents' perceived job satisfaction, it was found that 10.7% of them described themselves as very satisfied and 57.1% described themselves as satisfied with their jobs. 28.8% expressed themselves as neutral and 3.4% as dissatisfied. Consequently, 67.8% of the respondents could be said to be satisfied with their jobs, while 32.2% could be said to be dissatisfied with them.

However, in terms of their job behaviour, 55.9% of the respondents were found to have felt the urge to resign from their present firms: 6.8% would resign immediately, 7.9% would resign very soon, 22.6% would resign in a few years and

another 18.6% were considering resigning. Irrespective of whether the urge to resign was “high”, “medium” or “low”, the fact remains that 56% of the respondents would resign at the first opportunity to do so. With more than half of the engineers working in consulting firms waiting to resign when the opportunity arises, it is clear that the problem of a high turnover of engineers in these firms is indeed a serious one. Only 44.1% of the respondents hardly or never thought of resigning. However, the actual percentage could be lower as the 44.1% included the directors or partners of the firms (5.1%). Therefore, only 39% of employed engineers would not resign.

In terms of the respondents’ work attitude, it was found that the majority of them (65.5%) had a very positive work attitude and would work to the best of their ability. Another 27.7% would work as usual, 4.5% would carry on as if someone was checking on them, and 1.7% would do the minimum work required. It was also found that none of the respondents had a “couldn’t care less” work attitude. This result suggests that there is a very professional attitude towards work among the engineers surveyed.

Furthermore, significant relationships were found to exist between job satisfaction and the urge to resign, and between job satisfaction and work attitude. In the first relationship, only 11% of the respondents who were satisfied had a high urge to resign compared with 22.8% of the respondents who were dissatisfied; and 56.8% of the respondents who were satisfied would not resign, compared with only 15.8% of the respondents who were dissatisfied. In the second relationship, 75.8% of the respondents who were satisfied would work to the best of their ability compared with 45.6% of the respondents who were dissatisfied.

The implication of these research findings is clear: based on the relationships established, to overcome the problem of a high turnover of consulting engineers, measures must be taken to increase their job satisfaction. But, the question is, how to improve their job satisfaction?

### Respondents' Satisfaction with the Job Factors

The findings reveal the respondents satisfaction with each of the six job factors: slightly satisfied with the relationship with the job (5.125), hardly satisfied with the superior-subordinate relationship (4.836), slightly satisfied with the relationship with peers (5.317), indifferent to economic rewards (4.121), indifferent to organisational climate (4.212), and hardly satisfied with off-the-job rewards (4.589).

Amongst the six job factors, the respondents expressed the most satisfaction in the relationship with peers. They enjoyed working with their colleagues (5.751), and found them to be cooperative and friendly (5.582). They were also able to discuss their jobs with their peers (5.537) and could confide in them (5.232) as well as having things in common (5.242).

The next factor in order of satisfaction was the relationship with the job. The respondents were happy with the sense of achievement on the job (5.571), the chance to use their skills and knowledge (5.616) and regarded their jobs as challenging and interesting (5.266).

For the superior-subordinate relationship, the respondents were happy with these qualities in their superiors: understanding (5.073), approachable (5.209) and leadership qualities (5.198). However, lower satisfaction was recorded for fair work

distribution (4.650), quality decision making (4.333), and the decision making process (4.554).

In terms of off-the-job rewards, the respondents were happy with the contribution to society (5.492) and nation (5.853). They expressed indifferent feelings towards the opportunity to serve in social organisations (4.266) and sense of achievement (4.424). However, they were dissatisfied with the lack of public respect given to engineers (3.881) and the lack of leisure time (3.616).

In terms of organisational climate, the respondents were only slightly satisfied with the place of work (5.124). They were indifferent to company policies (4.215) and management efficiency (4.203). Furthermore, they found that organisational goals often differed from their personal goals (3.977), and they were dissatisfied with the authoritarian administrative style in the firms (3.542).

The least satisfaction (or the most dissatisfaction) expressed by the respondents was with economic rewards. Their dissatisfaction was clearly shown with pay (3.740) and fringe benefits (3.475), and only low satisfaction was shown on promotion (4.655) and training (4.751) opportunities.

It can be seen from the above that the respondents expressed different levels of satisfaction on each job factor. Each factor was shown to have a significant relationship with the respondents' overall job satisfaction in the earlier analysis. Therefore, in any effort to increase the job satisfaction of consulting engineers, all six factors should be considered. However, in view of resource constraints, it is enough to determine the order of the relative importance of the six job factors to job satisfaction. With this knowledge, scarce resources can be allocated to the relatively more important factors. So, what is the order of importance of these six job factors?

## Ranking of Job Factors

The ranking of the job factors was achieved in two ways: from direct ranking by the respondents and from multiple regression analysis. The order of importance from direct ranking by the respondents was the relationship with the job, economic rewards, the superior-subordinate relationship, organisational climate, the relationship with peers, and off-the-job rewards. The order of importance from multiple regression analysis was: economic rewards, organisational climate, the relationship with the job and off-the-job rewards. [Two factors (the superior-subordinate relationship and the relationship with peers) could not enter the regression equation for the reasons explained in the previous chapter.]

Assuming both methods are of equal weight, the combined ranking (achieved by adding the rankings of each factor and then dividing the sum by two) would be: economic rewards, the relationship with the job, organisational climate, the superior-subordinate relationship, the relationship with peers and off-the-job rewards.

This study has clearly revealed that the three most important factors influencing the job satisfaction of consulting engineers are: economic rewards, the relationship with the job, and organisational climate. Any effort to improve their job satisfaction must take these factors into serious consideration. But are there any other variables that may be utilised in such efforts? Should, for example, the respondents' personal characteristics be considered as well?

## Relationship Between Respondents' Personal Characteristics and Satisfaction with the Job Factors

From the various analyses carried out, several significant relationships were discovered.

First, there was a significant relationship between gender and the relationship with peers: males were found to be more satisfied with this factor than females.

Second, there was a significant relationship between the grade of IEM membership and organisational climate: Fellows and Members were more satisfied than Graduates and Affiliates.

Third, there were significant relationships between engineering discipline and the relationship with the job, off-the-job rewards as well as economic rewards: in all three cases, electrical engineers were found to be more satisfied than civil and mechanical engineers.

Fourth, there was a significant relationship between years of working experience and the relationship with the job: respondents with more than 10 years of experience were more satisfied than those less experienced.

Fifth, there were significant relationships between job designation and economic rewards as well as organisational climate: respondents with the job designation "engineer" were less satisfied than those with higher job designations in both cases.

Sixth, there was a significant relationship between gross annual income and economic rewards: those with annual incomes above RM54,000 were more satisfied than those with lower annual incomes.

Finally, there was a significant relationship between the size of the firm and economic rewards: respondents working in small firms (up to 50 engineers) were more satisfied than those working in large firms (more than 50 engineers).

The valuable lessons learnt from the seven significant relationships established are discussed in the next section.

### Multivariate Analysis of Job Satisfaction and the Job Factors

The results of this analysis showed that economic rewards (the most important job factor) explained 25.9% of the variation in job satisfaction. This factor, when combined with organisational climate, explained 30.52% of the variation in job satisfaction. And these two factors, when combined with the relationship with the job, explained 33.23% of the variation in job satisfaction. Finally, these three factors, when combined with off-the-job rewards, explained 35.02% of the variation in job satisfaction.

### **Recommendations**

To reduce the high incidence of turnover among engineers in the consulting firms, measures should be taken to increase their job satisfaction. Based on the job factors identified in this study, these firms can implement improvement according to the order of importance established.

First, the most important factor identified, economic rewards, which the respondents had shown the most dissatisfaction, should be improved upon. Such improvement include better salary packages, better fringe benefits, and better opportunities for promotion and upgrading of skills.

Second, the next most important factor, the relationship with the job, can be improved upon by providing the engineers with jobs which allow them to use their skills and knowledge so that they attain self development and a sense of achievement.

Third, the next most important factor of organisational climate can be enhanced through participative decision making, involving the engineers in setting the firms' goals and missions, and improvement of the physical working conditions.

Fourth, the next two factors, the superior-subordinate relationship and the relationship with peers, can be improved by promoting teamwork, joint or participative decision making, fair work distribution, and organising social and sporting activities among the engineers.

The last factor, rewards off-the-job, is most appropriately taken up by the authorities and the various professional bodies. Such efforts to promote the engineering profession will enhance the engineers' satisfaction on this factor.

Further recommendations are derived from the several significant relationships established between the respondents' personal characteristics and satisfaction with the job factors. These recommendations are: improving teamwork involving female engineers; encouraging the younger engineers to attend the necessary Professional Interviews so that they can be upgraded to corporate membership of the IEM; studying and improving the job content of engineers with less than 10 years of experience; being more innovative in job designation rather than designate the majority as "engineer"; and bigger firms should re-structure their economic rewards system by emulating the smaller firms.



### **Suggestions for Further Research**

The present study is subject to the limitations mentioned in Chapter I. It is suggested that a further study to be carried out which includes factors other than the six factors used in this study. And as the multiple regression analysis showed that the factors used in this study explained only 35.02% of the variation in job satisfaction, additional factors may throw more light on the subject. It is also suggested that a study on the job satisfaction of engineers working in the public sector be carried out as the setting there is very different from the setting in this study.