

Analysis of Motivational Attributes on Learning And Training Among Engineering Students

N.Kuppuswamy¹, K.P.Parthiban², L.Feroz Ali³, L.Mubaraali⁴

^{1,2,3,4} Maharaja Engineering College, Avinashi, Tamilnadu

Abstract- This study empirically examines the relationship between Job security, Equal treatment of employees, Good salary, Job satisfaction, Good working condition, and reward for achievement by the students of the department Mechanical Engineering of Maharaja Engineering College, Avinashi, Tamilnadu by using self-designed questionnaires containing 20 attributes. The sample size was 75 so 75 questionnaires were distributed and only 40 were selected. Analysis was done using Microsoft excel and the result concludes that there is a significant positive relationship between students' motivation and their career growth. Job Security, Equal treatment of employees, and Good salary were selected by the above Engineering students. Hence it may be concluded that the motivation is the very important factor in estimating the behavior of the individual.

Keywords- Job Security, Good salary, Promotions / Expectation, Engineering Students, Organizational Behavior, Attributes, Motivation.

I. INTRODUCTION

1. Importance of Motivation

Motivation is one of the important functions of the management without which organizational objectives are difficult to achieve. It is an integral part of the management process and every manager must motivate his subordinates to create in them the will to work. Motivation is necessary for the better performance. The importance of motivation is briefly given below. [1]

- a) Motivation creates a willingness of workers to do their work in a better way.
- b) Motivation is the basis of co-operation to get the best results out of the efforts of the men on the job.
- c) Proper utilization of human resources possible since it inspires employees to make best possible use of different factors of production.
- d) Higher motivation leads to job satisfaction and hence labor absenteeism and turnover are reduced.
- e) A proper motivation scheme promotes a closer relationship between organization and workers. [2-3]

- f) High motivation helps to reduce resistance to change. By providing proper motivation, all the members will try to be as efficient as possible. [4-5]

2. Maslow's Hierarchy of Need Theory

Dr.Maslow was the pioneer in the proper classification of human needs. Some of the salient features of this theory are as follows.

- i. Human wants are innumerable and never ending if one want is satisfied, another want emerges in that place.
- ii. Adult motives are complex. No single motive determine behavior, rather, a number of motives operate at the same time.
- iii. Human needs form a hierarchy. Lower levels needs must at least partly be satisfied before higher level needs emerge. In other words, a higher order needs are essentially satisfied.
- iv. Satisfied wants do not motivate the workers. Only Unsatisfied wants induce the man to work hard.
- v. Various needs can be inter-dependent and overlapping.
- vi. Higher level needs can be satisfied in much more ways than can the lower levels needs.
- vii. The urge to fulfill needs is a prime factor in the motivation of people at work. People seek growth; they want to move up the hierarchy of needs. Usually, people seek the satisfaction of higher order needs. [6-8]

3. Special Motivational Techniques

Various theories of motivation suggest that several factors influence the performance of employees. But some of the factors are more predominant as compared with others. Some of the major motivational factors are identified as given below.

1. Money

Money is one of the important motivational factors. It may be in the form of wages, incentives, bonuses, the

company paid insurance or any other things that may be given to people for performance. [9]

The Manager should remember the followings when money is a kind of motivator.

1. Money is likely being more important to people who are raising a family. Money is an urgent means of achieving a minimum standard living.
2. Various enterprises make wages and salaries competitive within their industry and their area to attract and hold people.
3. Money not only satisfies physiological and security needs but is also a source of status and prestige in society.
4. Management should ensure that individual workings in the same category are given the same or nearly the same salary and wages within the organization as well as the other organization in the surrounding areas.
5. Even if a company is committed to the practice of comparable wages and salaries, a well-managed firm need never be bound to the same practices with respect to bonuses i.e., the bonuses for managers should be based on their individual performance and outcomes.

2. Participation

Research on motivation reveals that majority of workers are capable of creativity and self-control. Their consultation and participation in work-related issues have a favorable effect on their motivation and performance. Such participation reflects a genuine faith in human nature and provides dignity to labors. Participation is also a means of recognition. It appeals to the need for affiliation and acceptance. Further, it gives people a sense of accomplishment. [10]

3. Quality of Working Life

One of the most important and interesting approaches to motivation is the quality of working life. Good physical working conditions such as right temperature, adequate lightning, proper ventilation, noise free atmosphere have positive effects on the motivation and performance of workers. [11]

II. RESEARCH METHODOLOGY & DATA COLLECTION

1. Data Survey

Several references were utilized, for this article. The books and articles were found using the search engines and

databases available at Maharaja Engineering College and the Internet. From a review of the literature, a survey questionnaire was developed to collect data for the study from the engineering students of the department of Mechanical Engineering of Maharaja Engineering College. The survey questionnaire developed included a list of twenty attributes. During the study period, 75 surveys were administered to students who represent the target population of this article. These typed questionnaires were all hand-delivered to participants and 50 were selected. The relevant explanation for the questionnaire is given to the students. The questionnaire asked participants to rank the surveys twenty questions according to how important each is in motivating them as future employees to perform best at work. The most important attribute was ranked 5 and least important ranked 1. All attributes were to be ranked and no rank could be used more than once. The participants were as well asked to indicate their; Name, Department, Gender, Age, Class, e-mail Id.

2. Data Analysis

After data were collected on all the attributes, excel computer program was used to present the results. The collective rank order was determined by entering the ranking given to each of the 20 attributes in the survey questionnaire. After entering the rankings given to each attribute by each student, the total or sum of all the rankings for that attribute was totaled. This system of data analysis was found to be more appropriate as different participants gave a different ranking for the same attribute. The research for this article could be considered as a field research as it is carried out among engineering students who happen to constitute the future work force. Furthermore, to ensure both internal and external validity believes to have used the most accurate and up-to-date literature. The right and relevant questions asked in the survey, the most feasible data collection method used, and the tools used to analyze the data are also considered to be accurate and produce valid results, the overall validity of this article is considered to be high. Finally, the aim of this article is to determine attributes that motivate engineering students at present.

III. PRESENTATION OF DATA AND DISCUSSION OF RESULTS

Questionnaires were issued to Electrical and Electronics Engineering students of Maharaja Engineering College. The received data along with the rank assessment summary is given below in table 1 and the Ranks Assigned to Attributes Electronics and Communication Engineering Students for Summary Sheet – 1 is shown in figure 1.

Table 1. Consolidated Rank Assigned to Attributes by the Students of Electrical and Electronics Engineering

S.No	STUDENTS→ ATTRIBUTES↓	% Assigned to Attributes			Average %	Ranks
		II YEAR	III YEAR	IV YEAR		
1	Good Salary	5.09	5.94	5.22	5.4196	4
2	Job Satisfaction	5.51	5.39	5.29	5.3938	5
3	Team Spirit	4.85	4.77	5.29	4.9679	12
4	Promotions/ Expectation	5.45	5.70	5.16	5.4366	3
5	Management Styles	4.79	5.20	4.56	4.8494	15
6	Recognition	4.85	5.02	4.56	4.8074	16
7	Satisfying Goals	5.57	5.08	5.22	5.2903	8
8	Possibilities of Layoffs	2.87	3.10	4.13	3.3672	20
9	Working Hours	4.91	4.33	4.56	4.6003	18
10	Good Working Conditions	5.39	5.63	5.41	5.4770	1
11	Job Security	5.45	5.76	5.10	5.4370	2
12	A Feeling of Being Involved	4.85	4.77	4.50	4.7046	17
13	Gratitude for Job well done	4.97	4.64	5.04	4.8855	14
14	Support for learning and training	5.21	5.33	5.47	5.3342	6
15	Opportunity for honest feedback	5.03	5.14	5.35	5.1719	10
16	Equal treatment of employees	4.73	5.02	5.16	4.9700	11
17	Rewards for achievements	5.45	5.39	5.04	5.2929	7
18	Good Communication Skills	5.63	4.77	5.22	5.2071	9
19	Supervisor's help with personal problems	4.49	4.46	4.43	4.4614	19
20	Clear communication system	4.91	4.58	5.29	4.9259	13
TOTAL		100.00	100.00	100.00	100.00	

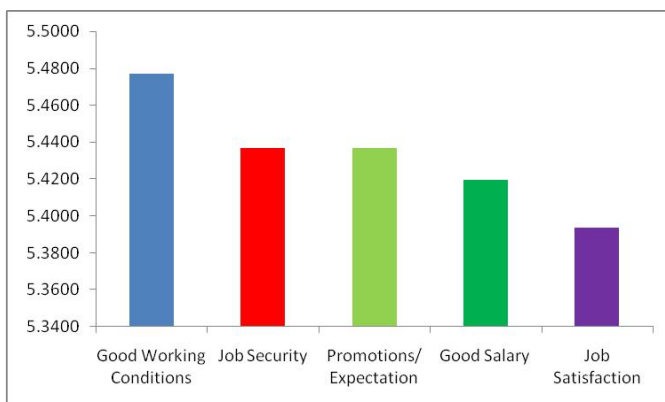


Figure 1. Consolidated Rank Assigned to Attributes by the Students of Electrical and Electronics Engineering

The Electrical and Electronics Engineering students have selected Good working condition as first rank. Job Security as second rank, Promotions and expectations were

given third rank, Good salary was given fourth rank and job satisfaction as fifth rank.

Questionnaires were issued to Mechanical Engineering students of Maharaja Engineering College. The received data along with the rank assessment summary is given below in table 2

Table 2 Consolidated Ranks Assigned to Attributes by the Students of Mechanical Engineering

S.No	STUDENTS→ ATTRIBUTES↓	% Assigned to Attributes						Average %	Ranks
		III YEAR-S 1	III YEAR-S 2	III YEAR-S 3	IV YEAR-S 1	IV YEAR-S 2	IV YEAR-S 3		
1	Good Salary	5.04	5.56	4.87	5.23	4.83	5.06	5.10	12
2	Job Satisfaction	5.58	5.43	5.27	5.23	5.02	5.48	5.33	7
3	Team Spirit	5.91	5.82	5.33	5.60	4.83	5.18	5.45	4
4	Promotions/ Expectation	5.24	5.30	5.07	4.85	5.08	5.30	5.14	11
5	Management Styles	4.84	5.05	4.81	4.60	4.10	4.69	4.68	16
6	Recognition	4.23	4.66	4.87	4.92	4.71	4.57	4.66	17
7	Satisfying Goals	5.85	5.69	5.99	5.35	5.51	5.48	5.65	3
8	Possibilities of Layoffs	1.95	2.01	2.63	4.04	3.12	3.47	2.87	20
9	Working Hours	4.64	4.08	3.69	4.85	4.90	4.57	4.45	18
10	Good Working Conditions	4.91	5.63	5.07	5.60	5.45	5.24	5.32	8
11	Job Security	5.04	5.50	5.66	4.98	5.32	5.18	5.28	9
12	A Feeling of Being Involved	5.44	5.05	5.33	5.48	5.75	5.48	5.42	5
13	Gratitude for Job well done	4.97	4.72	4.74	5.16	5.14	4.94	4.95	15
14	Support for learning and training	5.85	5.89	5.79	5.72	5.32	5.42	5.67	1
15	Opportunity for honest feedback	5.38	5.05	5.73	5.29	5.20	5.48	5.35	6
16	Equal treatment of employees	6.05	6.21	6.12	4.73	5.39	5.48	5.66	2
17	Rewards for achievements	4.91	4.79	5.20	4.92	5.39	5.12	5.05	13
18	Good Communication Skills	5.11	4.46	4.61	5.23	5.26	5.18	4.97	14
19	Supervisor's help with personal problems	3.43	3.49	3.62	3.48	4.28	3.96	3.71	19
20	Clear communication system	5.65	5.63	5.60	4.73	5.39	4.69	5.28	10
TOTAL		100.00	100.00	100.00	100.00	100.00	100.00		

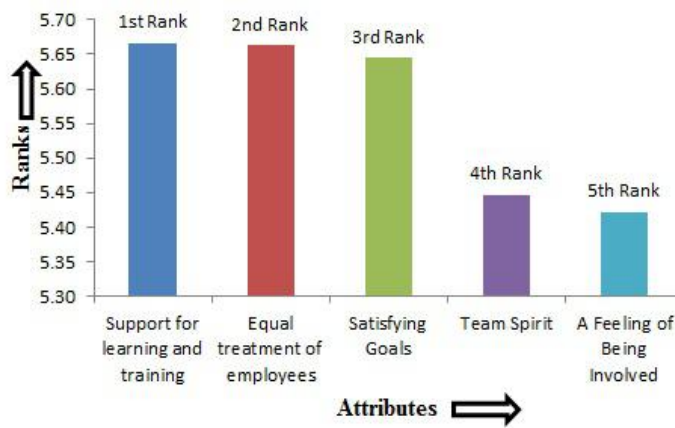


Figure 2. Consolidated Ranks Assigned to Attributes by the Students of Mechanical Engineering

The Mechanical engineering students have selected Support for learning and Training as first rank, Equal treatment of Employees as second rank, Satisfying Goals as third, Team Spirit as fourth and A feeling of Being involved as fifth rank.

Questionnaires were issued to Computer Science and Engineering students of Maharaja Engineering College. The received data along with the rank assessment summary is given below in Table 3 and whose attributes are shown in Figure 3.

Table 3. Consolidated Ranks Assigned to Attributes by the Students of Computer Science and Engineering

S. No	STUDENTS → ATTRIBUTES ↓	% Assigned to Attributes		Average %	Ranks
		Sheet-1	Sheet-2		
1	Good Salary	5.06	5.07	5.07	9
2	Job Satisfaction	5.00	5.07	5.04	10
3	Team Spirit	4.49	4.68	4.58	17
4	Promotions/ Expectation	4.81	5.07	4.94	15
5	Management Styles	4.05	4.57	4.31	20
6	Recognition	4.68	4.68	4.68	16
7	Satisfying Goals	5.06	5.36	5.21	6
8	Possibilities of Layoffs	4.81	4.34	4.57	18
9	Working Hours	5.19	4.79	4.99	12
10	Good Working Conditions	5.50	5.30	5.40	2
11	Job Security	5.31	5.30	5.31	5
12	A Feeling of	5.12	4.90	5.01	11

13	Being Involved Gratitude for Job well done	5.12	5.13	5.13	8
14	Support for learning and training	5.31	5.41	5.36	3
15	Opportunity for honest feedback	5.57	5.13	5.35	4
16	Equal treatment of employees	5.88	5.24	5.56	1
17	Rewards for achievements	5.19	5.13	5.16	7
18	Good Communication Skills	4.74	5.19	4.96	13
19	Supervisor's help with personal problems	4.11	4.74	4.42	19
20	Clear communication system	5.00	4.90	4.95	14
TOTAL		100.00	100.00	100.00	

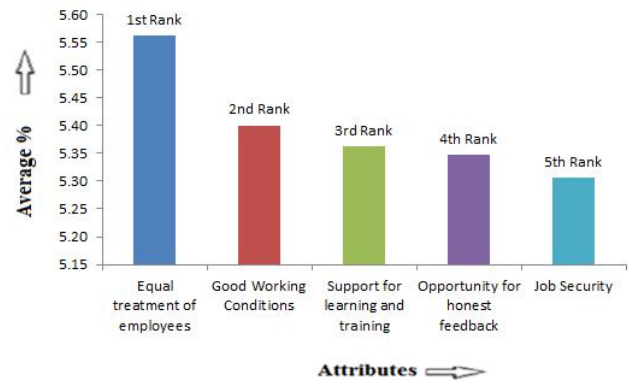


Figure 3. Consolidated Ranks Assigned to Attributes by the Students of Computer Science and Engineering

The students of the department of computer science and engineering have ranked Equal treatment of employees as the first, good working condition as the second, support for learning and training as third, opportunity for honest feedback as the fourth and Job security as the fifth.

The comparison of the attributes for electrical and electronics engineering, mechanical engineering and computer science engineering are given the table 4.

Table 4. Comparisons of Ranks Assigned to Attributes by the Students of EEE, MECH & CSE

S.No	STUDENTS→ ATTRIBUTES↓	% Assigned to Attributes			Average %	Ranks
		EEE	MECH	CSE		
1	Good Salary	5.4196	5.10	5.07	5.1951	8
2	Job Satisfaction	5.3938	5.33	5.04	5.2545	7
3	Team Spirit	4.9679	5.45	4.58	4.9999	14
4	Promotions/ Expectation	5.4366	5.14	4.94	5.1728	9
5	Management Styles	4.8494	4.68	4.31	4.6125	18
6	Recognition	4.8074	4.66	4.68	4.7158	16
7	Satisfying Goals	5.2903	5.65	5.21	5.3812	4
8	Possibilities of Layoffs	3.3672	2.87	4.57	3.6040	20
9	Working Hours	4.6003	4.45	4.99	4.6808	17
10	Good Working Conditions	5.4770	5.32	5.40	5.3976	3
11	Job Security	5.4370	5.28	5.31	5.3411	5
12	A Feeling of Being Involved	4.7046	5.42	5.01	5.0469	13
13	Gratitude for Job well done	4.8855	4.95	5.13	4.9860	15
14	Support for learning and training	5.3342	5.67	5.36	5.4543	1
15	Opportunity for honest feedback	5.1719	5.35	5.35	5.2913	6
16	Equal treatment of employees	4.9700	5.66	5.56	5.3986	2
17	Rewards for achievements	5.2929	5.05	5.16	5.1678	10
18	Good Communication Skills	5.2071	4.97	4.96	5.0490	12
19	Supervisor's help with personal problems	4.4614	3.71	4.42	4.1988	19
20	Clear communication system	4.9259	5.28	4.95	5.0519	11
TOTAL		100.00	100.00		100.00	



Figure 4. Comparison of Ranks Assigned to Attributes by the Students of EEE, MECH & CSE

The students of the department of Mechanical Engineering, Electrical and Electronics and computer Science and Engineering student have selected Support for Learning and Training as first rank. Equal treatment of Employee is selected as second rank and the Good working Conditions in third rank. Satisfying Goals as fourth rank, Job Security in fifth rank and the consolidated is given above in table 4 and the corresponding rank assigned attributes are shown in Figure 4.

IV. CONCLUSION

The students of the department of Mechanical Engineering, Electrical and Electronics Engineering and Computer Science and Engineering has ranked Support for Learning and Training as first rank. Equal treatment of Employee is selected as second rank and the Good working Conditions in third rank. Satisfying Goals as fourth rank, Job Security in fifth rank. It is concluded that the long-term survival of any organizations depends largely on the motivation of its employees. Therefore organizations should be willing to continuously and on regular basis, undertake employee's surveys such as this one in order to understand what their employees expect from their current job. The result of such exercises could prove useful for the organization. Finally, the results of this study and those presented and discussed in this article could be useful in helping organizations determine what motivates employees today and in the foreseeable future

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