

## Case study on job satisfaction of subcontractors: Marine project



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### ABSTRACT

Job Satisfaction is one among the key factors affecting project performance. Various researchers studied the impact of various personal factors that affects the Project. In this study an attempt is made to study the level of job satisfaction of Sub-Contractors labors working in a same Marine Project. It is found in that particular project all the labors had satisfaction with Role Clarity, Friendly and helpful co-workers and Personal protective equipment provided for job performance. Labors showed dissatisfaction with difficulty of Task, salary, job security, skills to resolve conflicts and Opportunities for Promotion.

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### 1. Introduction

Every now and then we hear the developments taking place in Construction sectors. New techniques will be invented, or the new designs come into picture. But there are items which cannot be done without the involvement of humans. Engineers are the head to guide their workers in a way the project outcome is just the way they expected. Every management give importance to engineers, fulfill their needs and provide the required facilities, few companies fail to satisfy the labors who is very important to complete their project. Job satisfaction can be affected in many ways, Job satisfaction concept was developed in many ways by many different researchers and practitioners. One of the definitions in organizational research is that of [Dugguh and Ayaga \(2014\)](#) and [Lock \(1976\)](#), who defined job satisfaction as “a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences” can also be defined as how content an individual is with his or her job, whether he or she likes the job or not. In this thesis an attempt is made to study the job satisfaction of subcontractor's workers working for a Marine Project.

Relationship between job satisfaction and employee performance in organizations with particular reference to Nigeria was traced by [Dugguh and Ayaga \(2014\)](#).

Literature review was done related to theories of job satisfaction such as affective events, two-factor, equity and job characteristics and found number of factors like achievement, recognition, responsibility, payment, work conditions and so on, have positive influence on employee performance in organizations. Technicians and front office staffs were considered for the study by [Datta and Datta \(2013\)](#). They found high amount of satisfaction in front office Staffs with the organization as a Staff and were also highly satisfied with technical tools when compared with technicians and they concluded saying regular meetings on how to improve productivity is must with the employees which helps to boost the organization productivity level and it is also required to full fill the employee needs. [Daryanto \(2014\)](#) conducted a study in Indonesia on Mechanical Engineering Teachers. After the Analysis, they found job transfer to a different location, peer assistance and continuous educational training to refresh and elevate teacher's knowledge, skills, ability, and experience can increase teacher's satisfaction. Job Satisfaction may Vary based on Age group, Sex, Experience, Marital Status or any other demographic variable. To find if age affects the job Satisfaction [Chileshe and Haupt \(2010\)](#) undertook a survey on construction workers within the Western Cape Province. And they found aged workers to be slightly more satisfied with their jobs compared to less aged workers. According to [Ortiz et al. \(2015\)](#), women in engineering academia should have the proper tools, working conditions, and effective mentoring to successfully achieve promotion and tenure. Payment, benefits and job security are most important to women as identified by [Dabke et al. \(2008\)](#) even though they are satisfied with their work. Salary, work autonomy, and task significance

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are the very important factor that gives job satisfaction for the project managers according to [Ling and Loo \(2013\)](#). [Park et al. \(2008\)](#) in their study examined the need for cognition at both the individual level and team levels. Paper tests a cross-level model which predicts that the effect of individual need for cognition on individual's job satisfaction is moderated by team need for cognition.

### **Objectives**

1. To study the factors affecting job Satisfaction by literature review.
2. Analyzing the factors affecting job satisfaction in Marine Project.
3. Finding how job satisfaction factors vary with company, Experience and Marital status.

## **2. Methodology**

For Data sampling Questionnaires were framed after literature review; Pilot study was carried using project manager, Project Engineer, Planning manager and Foremen (head of workers).which was distributed among workers of subcontractors. Data Collection of each worker was personally questioned and asked to tick on the circles as per their satisfaction and importance on the questionnaire sheet provided to them. Data were collected on 5 point Likert scale. Data Analysis was done using Cranach's alpha Correlation between the factors were tested using spearman's correlation. Significance of each factors were tested using non parametric chi-square test, significance factor below 0.05 is considered for Ranking. Ranking was given according to RII (Relative Importance Index). Job satisfaction between subcontractors were obtained by comparing the means on significant factors resulted from hypothesis testing.

## **3. Result and analysis**

### **3.1. Reliability analysis using Cronbach's alpha**

Reliability analysis result for Importance was 0.8 and for Satisfaction was 0.83, indicating good internal consistency of the questionnaires.

### **3.2. Relative importance index**

Top important factors shown in this test were protective equipment (rank1), understanding of family responsibility by management (rank 1), feedback from coworker (rank 2) and good friendly coworkers (rank 2), opportunities for promotion, experience and wages (rank 3).

Top satisfied factors were role clarity (rank1), personal protective equipment (rank 2) and good friendly coworkers, experience and availability of information to carry out work (rank 3).

### **3.3. Analysis result based on Spearman's Correlation**

Spearman's Correlation (2 Tailed) test was performed to check correlation between the factors. Strong correlation ( $r=0.69$ ,  $p=0.00$ ) was found for effectiveness in technical supervision & self-protective equipment for performance of job .wages seemed highly correlated with well and good hygienic facilities provided in company ( $r=0.58$ ,  $p=0.00$ ) conflicts resolving capability had high correlation with feedback from coworker ( $r=0.53$ ,  $p=0.00$ ). Self-Knowledge increases with good helpful co-workers around ( $r=0.52$ ,  $p=0.000$ ).

### **3.4. Analysis result based on hypothesis testing**

For hypothesis test, the factors identified do not have any significance on job satisfaction-  $H_0$  (Null Hypothesis).

The factors identified do have significance on job satisfaction-  $H_a$  (Alternate Hypothesis): Test was conducted using SPSS 20,The mean Values for importance and satisfaction and corresponding paired t test values are shown in [Table 1](#), items with significant differences at the 0.05 level were ranked and the rankings are shown in the [Table 1](#). Understanding of family responsibilities, Co-Workers Feedback, Leadership, Experience, Opportunities for promotion, Role clarity, Wages topped on the other hand Level of job difficulty, Work pressure, once knowledge and leniency in working hours seemed less important.

Workers were satisfied with Role Clarity, Leadership, Experience, Separate and Hygienic Sanitary Facilities on sites. Less satisfied with wages, leniency in working hours, Opportunities for promotion and Work pressure. Importance in wages and Opportunities for promotion was high but satisfaction level was low, so management has to give importance on these factors.

### **3.5. Analysis by comparing mean values**

Mean Values based on Company, experience, and Marital Status of 2 Companies is compared to identify the variation in factors. Only the factors significant at 0.05 from hypothesis test were chosen. Separate and hygienic sanitary facilitates on job sites, Understanding of family Responsibilities by supervisor and/or Management, Friendly and helpful co-workers, Opportunities for Promotion seemed more important to them but less satisfaction ([Table 2](#)).

## **4. Conclusion**

Construction Industry is rising day by day; huge improvement is seen in the field of construction from past few years. Development in construction Industry leads to development of the country. Study on Human behavior is complex, because of variation in the mind set. This variation of mind set may vary from one individual to another, and it is very important for the management to understand the

mind sets of every individual in order to deal with them and achieve the organization goal.

**Table 1: Hypothesis test, rankings**

Sl. No	FACTORS	Importance	Satisfaction	p Value	Importance	satisfaction
		Mean	Mean		Rank	Rank
1	Role clarity	4.143	4.333	0.03	6	1
2	Job Difficulty	3.929	3.857	0	10	8
3	Leadership	4.167	4.143	0.002	3	3
4	Experience	4.167	4.167	0	3	2
5	Information to carry out work	3.857	4.143	0.223	-	-
6	Wages	4.143	3.833	0.001	6	9
7	Job security	3.905	4.048	0.931	-	-
8	Leniency in work	3.952	3.857	0.000	9	8
9	Work pressure	3.691	3.810	0.001	11	11
10	Good helpful co-workers	4.238	4.214	0.62	-	-
11	Conflicts resolving ability	3.810	3.810	0.257	-	-
12	Opportunities for promotion	4.191	3.762	0.001	5	12
13	Your values match with companies	3.881	3.881	0.395	-	-
14	Independence in work	3.929	3.929	0.062	-	-
15	knowledge	3.667	4.095	0.024	12	4
16	Tools, equipment, and machinery for job performance	3.881	4.119	0.168	-	-
17	Technical supervision	4.119	4.095	0.109	-	-
18	Training	3.856	4.095	0.223	-	-
19	Special clothing for job performance	4.024	3.857	0.223	-	-
20	Personal protective equipment for job performance	4.310	4.167	0.136	-	-
21	Separate and hygienic sanitary facilitates on job sites	4.143	4.095	0.002	6	5
22	Feedback from co-worker	4.262	4.048	0.002	2	6
23	Understanding of family responsibilities by supervisor and/or Management	4.286	4.048	0	1	6

Relative Importance Index showed that protective equipment (rank1), understanding of family responsibility by management (rank 1), feedback from coworker (rank 2) and good friendly coworkers (rank 2), opportunities for promotion, experience and wages (rank 3) are top important factors. Top satisfied factors were role clarity (rank1), personal protective equipment (rank 2) and good friendly coworkers, experience and availability of information to carry out work (rank 3) out of 23 Ranks.

Based on hypothesis testing the significant factors got reduced to 12 with clear idea about the work at rank 1 position under satisfaction ranking (mean=4.33 and p=0.03), and least satisfaction ranking was given to load of work with a ranking of 11(mean=3.801, p=0.001) and Opportunities for promotion at rank 12 (mean=3.76, p=0.001).

Based on Hypothesis testing out of 12 rankings, top rank for importance was given to Understanding of Family responsibility by Superior /management (rank 1,mean=4.286) and low importance ranking was given to Ability to execute work (rank 12) and load of work at rank 11.

From Hypothesis testing it can be seen that under importance, Understanding of Family responsibility by Superior /management falls on rank 1 but satisfaction level falls at rank 6.Opportunities for promotion is ranked 5<sup>th</sup> under importance ranking but under Satisfaction level it was ranked 12 out of 12 rankings.

Both company A and B had same ranking for Opportunities for promotion and considered it to be the top 1 important factor (mean=4.5), but the satisfaction level on it was very low (mean =3.94).

So management has to give more importance to these factors to increase the job satisfaction level of labors.

Labors with experience more than 15 years seemed less satisfied compared to labors with experience below 15 years. Unmarried Labors were not satisfied with the personal protective equipment provided (mean =4.231) and on other hand married was slightly less satisfied with the understanding of family responsibility by management/superior (mean=4.10).

## 5. Limitations

Labors were hesitated to answer about few factors that they were not actually satisfied with .so few factors have got high ranking than they actually deserve. Labors were not familiar with other languages than their mother tongue, thus their capability of understanding on each factor may vary. Study was conducted only based on labors working for same company so better result would have obtained if there was a comparison on labors working for different companies.

## 6. Future works

In this study only labors working for same company were considered, in future a study on job satisfaction can be made by comparing labors working for different companies. In the study the comparisons are made based on demographic variables, in future comparisons can be made based on the work involved. It was a study conducted on a same region; future scope can be by comparing the states of mind based on various regions. A study can be made on how the job satisfaction varies between the Engineers and labors of same company, different companies, and labors belonging to different places.

**Table 2: Satisfaction and dissatisfaction based on demographic variable**

Sl. No	Company	A		B			
		Imp	Sat	Imp	Sat		
	Factors						
1	Role Clarity	4.2778	4.3333	4.2778	4.3333		
2	Leadership	4.1667	4.2222	4.1667	4.2222		
3	Experience	4.1667	4.1111	4.1667	4.1111		
4	Wages	4.0000	4.0000	4.0000	4.0000		
5	Work pressure	4.0000	4.0556	4.0000	4.0556		
6	Good helpful co-worker's	4.4444	4.2778	4.4444	4.2778		
7	Opportunities for promotion	4.5000	3.9444	4.5000	3.9444		
8	Self-ability to execute work	3.8889	3.9444	3.8889	3.9444		
9	Personal protective equipment for job performance	4.2778	4.2222	4.2778	4.2222		
10	Separate and hygienic sanitary facilitates on job sites	4.2222	4.0000	4.2222	4.0000		
11	co-workers feedback	4.4444	4.0556	4.4444	4.0556		
12	Understanding of family responsibilities by supervisor	4.2778	4.0000	4.2778	4.0000		
Sl. No	Experience (years)	<5		5 to 15		>15	
	Factors	Imp	Sat	Imp	Sat	Imp	Sat
1	Role Clarity	4.0000	4.3333	4.2632	4.2632	4.2000	4.6000
2	Leadership	4.1667	4.1111	4.1053	4.1579	4.4000	4.2000
3	Experience	4.1667	4.0000	4.0526	4.2105	4.6000	4.4000
4	wages	4.0000	3.7778	4.1053	4.0000	4.8000	3.4000
5	Work pressure	3.6667	3.8333	3.4737	3.7895	4.6000	3.8000
6	Good helpful co-worker's	4.1667	4.2778	4.1053	4.2105	5.0000	4.0000
7	Opportunities for promotion	4.3333	3.8333	4.0526	3.6316	4.2000	4.0000
8	Self-ability to execute work	3.7778	4.0556	3.5789	4.0526	3.6000	4.4000
9	Personal protective equipment for job performance	4.2778	4.2778	4.1579	4.0526	5.0000	4.4000
10	Separate and hygienic sanitary facilitates on job sites	4.1667	4.1111	4.1579	4.0000	4.0000	4.4000
11	co-workers feedback	4.3889	4.0556	4.1053	3.8947	4.4000	4.6000
12	Understanding of family responsibilities by supervisor	4.0556	4.1667	4.4211	4.0000	4.6000	3.8000
Sl. No	Marital Status	Unmarried		Married			
	Factors	Imp	Sat	Imp	Sat		
1	Role Clarity	4.1538	4.3846	4.1379	4.3103		
2	Leadership	4.0000	4.1538	4.2414	4.1379		
3	Experience	3.9231	4.0769	4.2759	4.1724		
4	Wages	3.8462	3.2308	4.2759	4.1034		
5	Work pressure	3.2308	3.6923	3.8966	3.8621		
6	Good helpful co-worker's	4.0769	4.3846	4.3103	4.1379		
7	Opportunities for promotion	4.3077	3.6154	4.1379	3.8276		
8	Self-ability to execute work	3.5385	4.1538	3.7241	4.0690		
9	Personal protective equipment for job performance	4.5385	4.2308	4.2069	4.1724		
10	Separate and hygienic sanitary facilitates on job sites	4.3846	4.0000	4.0345	4.1379		
11	co-workers feedback	4.3077	4.0000	4.2414	4.0690		
12	Understanding of family responsibilities by supervisor	4.0769	3.9231	4.3793	4.1034		

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