

## An Investigation of Employee Satisfaction – Case from Indian Public Steel Sector

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### ABSTRACT

*Purpose:*

The purpose of this paper is to examine the level of employee satisfaction with special reference to Indian steel sector.

*Design/Methodology/Approach:*

A random sample of 312 employees including senior , middle level, junior level managers and supervisors of selected steel industries in India responded, regression analysis has been used to test hypothesis.

*Findings:*

It was found that employees are satisfied in general. Further the satisfaction level of the employees significantly differs regarding salary with respect to their experience.

*Originality/Values:*

The potential detrimental effects on Employee should be considered as well on attrition and moral problems may sabotage the effectiveness ground of such industries in the globalised era. However, the manner in which the steel production environment influences employees behaviors has received little empirical attention. First of all the location of steel industries are far away from the academia research in India, neither adequate full time researcher are engaged for this purpose. The findings of this study provides interesting implications to practice by this steel industries and will be a source of general guidance in stimulating future research in this area, which is closely attached to production.

**Keywords:** *Employee satisfaction, Employees welfare, Indian Steel sector, Organizational effectiveness.*

### Introduction

Contrary to management theories developed in the Industrial Age, employee satisfaction is an important component for financial success of any Industry.

The HRD philosophy emphasizes that management owe it to themselves to value human beings, independent of their involvement to corporate efficiency or profit. Trust in the basic truthfulness of people, conviction in their potential, respect for their self-esteem- these fundamental attitudes leads to creation of a climate in companies where individuals feels a sense of attachment and belongingness where people find fulfillments in work and seek newer horizons for themselves and

the enterprise through self and subordinate development . Now the problem lies with identifying the factor that needs attention and is contributing adversely to motivation. Measuring of Employee Satisfaction is a technique to assess the needs that have bearing on motivation.

The factors affecting the Employee Satisfaction are varied and complex including organizational policies and strategies, work environment of trust, loyalty, pay, recognition and rewards, leadership styles, career opportunities, rules and regulations, freedom of work, training, working time. Work load etc. Broadly, these factors can be grouped into a common attribute i.e. Employee Satisfaction.

Steel is not just a capital intensive industry. It requires a huge pool of exceptionally talented and skillful workers at all levels of management and operation. The manpower and skill requirement go beyond the steel industry as similar demand will come from the allied and ancillary industries, development and management of infrastructures related to the steel plants and services sector the support the industrial activities and civic and social life. Currently, the steel producers in India are facing shortage of skilled manpower. Shortages seem to be more on the side of quality than quantity. In this scenario, paying an attention towards employee satisfaction will be a revival tool.

### **Significance of the study:**

The study is of immense significance to the employees and the organization as it gives an insight to the individual to ascertain the extent of Organizational Effectiveness and the role and contribution of employee satisfaction to it. It also explains the inter relations among the major motivational factors. It will help the organization to learn the nature of these relationships and improve its effectiveness by improving some of the variables. It will also help the employer to frame policies towards improving the employee satisfaction and positive attitude.

1. Organizational theorists and researchers (Cummings, 1980) have used **employee satisfaction**, as an effort, or commitment as the key to enhancing organizational effectiveness.
2. Studies tend to focus on factors, such as salary & compensation and effect of residual experience out of public sector work culture, and their interaction, to investigate influence employee satisfaction towards organizational effectiveness.

### **Literature Reviews:**

Employee satisfaction has been conceptualized and defined differently by various researchers and authors in the literature. The following are the earliest definitions of the concept in the literature:

According to Lofquist and Dawis (1969, p. 53), satisfaction is "...a function of the correspondence between the strengthening from the work environment and the individual's needs".

Porter, Lawler and Hackman (1975, pp. 53-54) define satisfaction as a feeling about a job that "...is determined by the difference between the amount of some valued conclusion that a person receives and the amount of outcome he feels he should receive".

Locke (1976, p. 1300) states that employee satisfaction can be viewed as "...an enjoyable or positive emotional state resulting from the assessment of one's job or job experience".

Arnold and Feldman (1986, p. 86) describe employee satisfaction as “...the amount of overall affect that individuals have toward their jobs”.

According to Cranny, Smith, and Stone (1992), employee satisfaction is a combination of cognitive and affective reactions to the differential perceptions of what an employee wants to receive compared with what he or she actually receives.

Curry (2004) indicated that money as a motivator is always useful, but money should not be the only motivator. He suggested that encouraged employee contribution and good communication are other important tools to have happy and productive workforces.

As per Bottani, Murdy Monica and Vignali (2009) proper work place safety management gives the perception that organization cares for the employees and thus contributes partially to the satisfaction level of an employee.

Tourani and Rast (2012) is of the opinion that, allowing and encouraging employees to participate in organization decision making, will significantly improve efficiency and performance. Second result of study revealed positive and significant effect of communication on employees' job satisfaction.

Results of the study by Basir Ahmedi et.al. (2012) reveals that organizational ethics in term of egoistic climate for ethics has negative association with job satisfaction. They also reported that when organization emphasize on promoting its self-interests, employees experience dissatisfaction. Results demonstrate a strong and positive relationship between benevolent climate for ethics and job satisfaction. The results supports that if the organization has fairness at positive workplace environment, employees feel more satisfaction and less cognitive dissonance.

Central to these definitions is the view that employee satisfaction is a positive emotional reaction resulting from a comprehensive assessment of the individual's experience of the work environment or organizational setting.

This view serves as the bases of the definitions of employee satisfaction in this study

### **Scope: An overview of Indian Steel Industries:**

The modern steel industry started with the establishment of Tata Iron Steel Company (TATA STEEL) in 1911. Since then the Indian steel industry has grown to become the 3<sup>rd</sup> largest steel producer (109.85 mt in 2014-15) of the crude steel in the world. Sector symbolized national pride.

The structure of the steel industry can be considered to be bearing three important part: One, the main steel producers and the *secondary steel* producers. The main steel producers consist of large scale integrated plant (capacity varying from 1 mtpa to more than 4 mtpa) using BF-BOF route of iron and steel production with a full range of downstream rolling finishing facilities. At present 70% of the total crude steel capacity of the country. All giant plants like units of steel authority of India Limited (SAIL), TATA STEEL, Rastriya Ispat Nigam Limited (RINL) , and a few other private companies ( JSW, Essar Steel , JSPL comes into this category.The secondary sector on the other hand comprises of small to medium capacity Electric arc furnaces (EAF) and Electric Induction Furnace (EIF) using an input mix of DRI/HBI and pig iron for producing either semi or finished steel. Capacity of these units ranges from. 20- 22 mt/yr .India is the Largest producer of sponge iron

(46.23 mt in 2014-15) in the world as well as 3<sup>rd</sup> largest consumer of finished steel (per capita consumption is 57.8 kg in 2013) in the world. According to a World Steel Association (WSA) publication, average per capita steel consumption globally was 225.2 kg in 2013 and India is expected to grow by 6.2 per cent to 80 MT in 2015 from 75.3 MT in 2014.

In this study, Indian Public Sector Steel Plants (Steel Authority of India Ltd.) was the research universe and its plants, in eastern India like Rourkela Steel Plant (SAIL) and Durgapur Steel plant were targeted for survey. All these plant are coming under the umbrella of Steel Authority of India (www.sail.co.in), the major steel producer in India.

#### ***About Rourkela Steel Plant (the selected universe)***

Rourkela Steel Plant (RSP), the first integrated steel plant in the public sector in India, was set up with German collaboration with an installed capacity of 1 million tonnes. Subsequently, its capacity was enhanced to 2 million tonnes of hot metal, 1.9 million tonnes of crude steel and 1.67 million tonnes of saleable steel. After implementing a massive modernisation and expansion that is in the last leg of completion, Rourkela Steel Plant has enhanced its capacity to 4.5 million tonnes of Hot Metal and 4.2 Million Tonnes of Crude Steel.

#### ***About Durgapur Steel Plant (the selected universe)***

Set up in the late 50's with an initial annual capacity of one million tonnes of crude steel per year, the capacity of Durgapur Steel Plant (DSP) was later expanded to 1.6 million tonnes in the 70's. A massive modernization programme was undertaken in the plant in early 90's, which, while bringing numerous technological developments in the plant, enhanced the capacity of the plant to 2.088 million tonnes of hot metal, 1.8 million tonnes crude steel and 1.586 million tonnes saleable steel. The entire plant is covered under ISO 9001: 2000 quality management system. With the successful commissioning of the modernized units, DSP is all set to produce 2.088 million tones of hot metal, 1.8 million tonnes of crude steel and 1.586 million tones of saleable steel annually.

#### **Manpower Position - As on 01.12.2014**

Units	Executive	Non-executive	Total
Rourkela Steel Plant	1958	14829	16786
Durgapur Steel Plant	1640	9886	11528

#### **Objective of the Study:**

Steel is not just a capital intensive industry. It requires a huge pool of exceptionally talented and skillful workers at all levels of management and operation. The manpower and skill requirement go beyond the steel industry as similar demand will come from the allied and ancillary industries, development and management of infrastructures related to the steel plants and services sector the support the industrial activities and civic and social life.

The Indian steel industry has reported that it has found it difficult to attract talents and retain them due to the fact that there are alternative areas such as finance, marketing and corporate management which are more attractive to an engineer working at a plant which usually is located in a remote area. In many such cases, the initial earnings for such disciplines are much higher than

for the stable businesses such as steel making. There is also a preference among the young to live in metropolitan cities with better amenities and quality of life. While the steel industry will have to overcome such challenges with offering higher and competitive compensation and work hard to improve upon the quality of life in the plants.

These issues pertaining to the overall employees' satisfaction in Indian steel sector. Hence the current research has undertaken.

The main Objective of this study was to know

1. Whether Employee of Indian public sector steel plant are satisfied or not.
2. If Satisfied, does Salary have any impact on their level of satisfaction?

### **Research Methodology:**

Based on the objective of study following hypothesis were laid down;

*H01: Employees of Indian public sector steel plant are not satisfied under the selected factors*

*H02: Employee satisfaction does not differ regarding salary with respect to Experience*

The measurement criteria postulated in this paper is various constructs of Employee Satisfaction which is quite impressive.

This research was focused on trying to discover the employee satisfaction level in public Steel Sector located at eastern India.

Descriptive research has been applied, which is also known as statistical research, describes data and characteristics about the population or phenomenon being studied.

To cater the need of the research, primary (structured Questionnaire resourced from web by suitably modification) as well as secondary sources of data have used

Data Collection was done using the Structured questionnaire through interview and email responses from the employees of the organization on distinct 25 parameters like: salary, balance between work and personal life, work environment welfare measures at the organization etc. measured on Likert five point scale, which was later reduced to 5 factors with help of factor analysis.

Sample sizes of 312 employees from various departments of both units (steel plant) were taken for the research purpose. And afterwards, under the probabilistic sampling techniques, systematic sampling was done.

*Data Analysis:* IBM SPSS 20 (Statistical Package for the Social Sciences) was used, for data analysis.

### **Analysis & Interpretation**

Considering the sample size and communalities, for analysis of survey data, first data reduction technique (Factor Analysis) was done.

During Factor extraction, primary analysis was done with the eigenvalues over 1 option selected

**Preliminary Analysis:****Table -1 : KMO and Bartlett's Test**

KMO (Kaiser-Meyer-Olkin-Kriterium ) Measure of Sampling Adequacy		.902
Bartlett's Test of Sphericity	Approx. Chi. Square	1631.879
	Df	251
	Sig.	.000

From the above table, it is evident that the value for Kaiser-Meyer-Olkin Measure of Sampling Adequacy is more than 0.6, and it is 0.902, which indicates that patterns of correlations are relatively compact and so factor analysis gives distinct and reliable factor.

Regarding test to verify that samples are from populations with equal variances. To find the correctness of this assumption, The Bartlett test is done. And it is found that Bartlett's Test of Sphericity has sig value less than 0.05 at 5 % level of significance. Therefore factor analysis is appropriate and data reduction could be conducted successfully.

**Table-2 : Rotated Component Matrix<sup>a</sup>**

	1	2	3	4	5
Workload is evenly distributed	0.755				
Safety procedure and regulations are clearly observed	0.657				
Your work environment helps you to give your best	0.649				
You are allowed to freely air your grievances	0.524				
The attitude of your superior towards you makes you feel secure and encouraging	0.513				
Promotion policies are very good and effective		0.732			
My Department has good synergy		-.629			
The people at my company always behave in an ethical manner		0.677			
I feel part of a team working toward a shared goal		0.634			
My managers are positive minded and good decision makers		0.633			
My co-workers care about me as a person		0.626			
Very well informed about role			0.411		
The Company's pay structure and pay scales are good			0.845		
All good job incumbents are recognized and awarded			0.645		
I get support for continuing education and personal growth			0.548		
You are happy with your welfare conditions				-0.404	
My Company provides as much ongoing training as I need				0.698	
My Company encourages employee development and training				0.534	
Getting released for training is not a problem				0.512	
I have had the training I need to do my work well					

My Company provided as much initial training as I needed					
Correct work division			-0.417		
I have adequate personal space to balance between work and personal life					0.823
I am involved in decision making that affects my job					0.543
My Supervisor handles my work-related issues satisfactorily					0.512
I am encouraged to develop new and more efficient ways to do my work					0.526
I can take action without the need for excessive formal approvals					0.511
I rarely feel exhausted at work		-0.429			

*Extraction Method : Principal component Analysis*

*Rotation Method: Varimax with Kaiser Normalization*

**a.** *Rotation converged in 9 iterations.*

#### **Factor Extraction:**

Based on the Item loading (Table-2), all the 27 factors grouped into Five(5) Components and labeled as;

1. The factor "Empowerment & work Environment" explains the 1st component.
2. The factor "Organization culture & Team work" explains the 2nd component.
3. The factor "Salary & Career opportunity" explains the 3rd component
4. The factor "Training & Development" explains the 4th component
5. The factor "Job Satisfaction" the 5th component.

So far Kaiser's criterion is concerned, output given by SPSS is correct. In this study sample size is 312 (more than 250) and the average communality is not exceeding 0.7 (  $12.825/25=0.513$  ).

It has found that some factors like welfare measures, role clarity, freedom of decision making, recognition and innovativeness and creativeness does not have that much impact on Employee satisfaction,. Other factors together were having 65.216% impact of variance.

**VARIANCES****Table - 3 : VARIANCES**

Component	Rotation Sums of Squared Loadings	Total % of Variance	Cumulative % of Variance
1	3.654	15.898	15.889
2	3.623	15.332	31.221
3	2.849	15.323	46.544
4	2.479	12.184	58.728
5	1.835	6.488	65.216

**Normality Test (Parametric)****Table-4 : Normality Test (Parametric)**

Graphical methods are typically not very useful when the sample size is small/moderate. So following test has been adopted.

**H0: the observed distribution fits the normal distribution**

**H1: the observed distribution does not fit the normal distribution**

Variables	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistics	Df	Sigf.	Statistics	Df	Sigf.
The attitude of your superior towards you makes you feel secure and encouraging	0.332	150	0	0.724	150	0
Workload is evenly distributed	0.310	150	0	0.845	150	0
My Company encourages employee development and training	0.257	150	0	0.871	150	0
You are allowed to freely air your grievances	0.342	150	0	0.817	150	0
Safety procedure and regulations are clearly observed	0.259	150	0	0.748	150	0
Getting released for training is not a problem	0.361	150	0	0.817	150	0
All good job incumbents are recognized and awarded	0.217	150	0	0.896	150	0
I have adequate personal space to balance between work and personal life	0.247	150	0	0.854	150	0
Promotion policies are very good and effective	0.323	150	0	0.749	150	0
The Company's pay structure and pay scales are good	0.285	150	0	0.728	150	0
Freedom for decision making	0.294	150	0	0.877	150	0
My Company provided as much initial training as I needed	0.289	150	0	0.853	150	0
My managers are positive minded and	0.381	150	0	0.823	150	0

good decision makers						
The people at my company always behave in an ethical manner	0.342	150	0	0.870	150	0
You are happy with your Welfare conditions	0.299	150	0	0.820	150	0
My Company provides as much ongoing training as I need	0.245	150	0	0.888	150	0
I feel part of a team working toward a shared goal	0.336	150	0	0.777	150	0
My co-workers care about me as a person	0.338	150	0	0.775	150	0
My Company provides as much ongoing training as I need	0.251	150	0	0.898	150	0
I get support for continuing education and personal growth	0.284	150	0	0.877	150	0
My Department has good synergy	0.370	150	0	0.823	150	0
Your work environment helps you to give your best	0.340	150	0	0.806	150	0
Very well informed about job/ role	0.335	150	0	0.737	150	0
I can take action without the need for excessive formal approvals	0.215	150	0	0.725	150	0
I am encouraged to develop new and more efficient ways to do my work	0.339	150	0	0.719	150	0
My Supervisor handles my work-related issues satisfactorily	0.289	150	0	0.822	150	0
I rarely feel exhausted at work	0.376	150	0	0.841	150	0

a. -Lilliefors Significance Correction

In the SPSS output above the probabilities are less than 0.05 (the typical alpha level), so we reject  $H_0$ ... these data are significantly different from normal. From table 4 we found that Kolmogorov-Smirnov test of normality had the sig. value for all the variables under consideration less than 0.05 at 5% level of significance. Thus we failed to accept the null hypothesis.

Hence, opted for non parametric tests.

Measurement of Satisfaction level of Employees based on Chi-Square Test Statistics against Major Variables found after Factor Analysis

In order to test if there is an association between two nominal variables, Chi-square test was undertaken..

***H0: Employees are not satisfied under the selected factors***

***H1: Employees are satisfied under the selected factors.***

The 1st Component EMPOWERMENT & WORK ENVIRONMENT includes, Supervisor's attitude, Work load, and Grievance Management, Work Safety and Work environment.

**Chi-Square test statistics for Component # 1****Table-5 : Chi-Square test statistics for Component # 1**

	Supervisor's Attitude	Workload	Grievances Management	Work Safety	Work Environment
Chi-Square	146.133a	114.133a	137.076	178.133a	123.676a
Df	4	4	4	4	4
Asymp. Sig.	0	0	0	0	0

It is evident that for all the variables under 1<sup>st</sup> Components had a significance value less than 0.05 at 5% level of significance, hence the null hypothesis is not acceptable. Thereby it can be concluded that employees are satisfied in the selected universe so far Component-1 is concerned.

**Chi-Square test statistics for Component # 2****Table-6 : Chi-Square test statistics for Component # 2**

	Positive minded managers	Ethical manners	Goal sharing attitude	Co-worker's attitude	Departmental synergy
Chi-Square	123.800a	149.876a	189.076a	162.200a	136.277a
Df	4	4	4	4	4
Asymp. Sig.	0	0	0	0	0

From above Table, it can be found that for all the variables under Component # 2 had a significance value less than 0.05 at 5% level of significance, thus we fail to accept the null hypothesis. Thus we could say that employees are satisfied within the organization as far as Component # 2 is concerned.

**Chi-Square test statistics for Component # 3****Table-7: Chi-Square test statistics for Component # 3**

	pay structure	recognition and reward scheme	support for personal growth	Promotion policy	Career prospects
Chi-Square	118.476a	117.133a	66.333a	119.467a	113.133a
Df	4	4	4	4	4
Asymp. Sig.	0	0	0	0	0

It is further found that for all the variables underneath Component # 3 had a significance value less than 0.05 at 5% level of significance, thus the null hypothesis is rejected and thereby concluded that employees are satisfied so far Component # 3 is concerned.

**Chi-Square test statistics for Component # 4****Table-8 : Chi-Square test statistics for Component # 4**

	Encouragement for training & development	Release freely for training	Fulfillment of training needs	On the job training	Fulfillment of initial training needs
Chi-Square	65.000a	113.667a	51.476a	117.546a	109.133a
Df	4	4	4	4	4
Asymp. Sig.	0	0	0	0	0

From Table 8 , it is summarized that for all the variables categorized under Component # 4 has a significance value less than 0.05 at 5% level of significance, and here also the null hypothesis is not acceptable. Thus it can be said that that employees are satisfied so far Component # 4 is concerned.

**Chi-Square test statistics for Component # 5****Table-9 : Chi-Square test statistics for Component # 5**

	balance between work and personal life	Role in decision making	Supervisor's support in work related issues	Encouragement for innovation	Freedom in handling work
Chi-Square	95.667a	124.256a	79.251a	116.573a	117.133a
Df	4	4	4	4	4
Asymp. Sig.	0	0	0	0	0

From the test for Component # 5 , it is found that all the variables had a significance value less than 0.05 at 5% level of significance, hence rejected the null hypothesis and accept the fact that employees are satisfied so far Component # 5 is concerned.

Furthermore to know employee satisfaction level on the basis of following test objectives:-

- *Employee Experience and employee satisfaction regarding salary.*

**Kruskal-Wallis Test - 1**

**H0: Employee satisfaction does not differ regarding salary with respect to experience.**

**H1: Employee satisfaction does differ regarding salary with respect to experience.**

### Kruskal-Wallis Test Statistics

**Table -10 : Kruskal-Wallis Test Statistics**

	<i>Ranks</i>		
	experience	N	Mean Rank
The Company's pay structure and pay scales are good	5- 10 years	42	49.37
	11 to 20 years	68	53.89
	21 to 30 years	118	84.53
	More than 30 years	84	69.58
	Total	312	

### Test Statistics

**Table-11 : Test Statistics <sup>a,b</sup>**

	rating
	Rating (The Company's pay structure)
Chi Square	17.65
Df	3
Asymp. Sig.	0.001

- a. Kruskal Wallis Test
- b. Grouping variable

Table 10 gives the impression that the asymptotic sig value is 0.001 which is  $< 0.05$ , at 5% level of significance. Hence we fail to accept the null hypothesis. This shows that the satisfaction level of employees regarding their salary *differ* with respect to their experience.

So to know further, how much employee differ on their satisfaction level regarding their salary on the basis of their experience. For this evaluating a rank table, preferred in this situation and from table 11 it is concluded that employees having experience between 21 to 30 had the highest mean rank of 84.53, hence it can be said that they were the ones who strongly agreed to the salary they received. And employees having experience less than 10 years were not satisfied with the salary they are drawing presently, because their mean rank was lowest at 49.37.

SPSS has calculated the mean and standard deviation for both the grouping variable (condition) and the dependent variable (rating). The *descriptive statistics* for the grouping variable has been ignored here.

### Conclusion:

The study was focused on a sample of 312 employees. 96% were male while 4% were female. 14% of respondents were below 31 years, 22% were in the age group of 32-42 years, 38 % were between the ranges of 43-53 years while 26% were between 54 and 60 years of age.

The study revealed that that the overall employees were satisfied with their company. And also concluded that with respect to experience the satisfaction level of the employees differ significantly regarding salary.

Maxim Gorky, author of *The Lower Depths*, once said, "When work is a pleasure, life is a joy! When work is a duty, life is slavery." For most people this statement holds true. Life for some people is full of ease and happiness. For the rest of the world life is hard and it is even harder when thousands of hours of one's life is spent working in an unsatisfying job. For some people, those eight hours cannot end soon enough. For these people, those four hundred and eighty minutes are hell or at least as painful as a visit to the dentist. For other people, those four hundred and eighty minutes are spent with a smile on their faces. These people enjoy their jobs. They work for companies that view *employee satisfaction* as a valuable commodity. These companies know that the key to good business is to make their employees happy. *Employee satisfaction* not only makes the individual happy but it makes the company happy as well.

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