DRIVERS OF JOB SATISFACTION AMONG SAIL EMPLOYEES WITH SPECIAL REFERENCE TO BHILAI STEEL PLANT

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Abstract:
The study sought to identify the main drivers of job satisfaction among the employees of Steel Authority of India Limited (SAIL) which is one of the first basic industries of Indian public sector. Specifically, it focused its attention on Bhilai Steel Plant (BSP) as an employer & examined the extent of employee job satisfaction, together with its nature & degree of variation. A survey was conducted among 1000 employees working in the company irrespective of their age group, gender & job profile. A total of 23 independent variables with the dependent variable of job satisfaction were taken in the study. Both descriptive & inferential statistical techniques were used to analyze the data collected. The employees were found to be quite content with their job with overall satisfaction level of officers being 72% & that of workers being 74%. Some drivers of job satisfaction were found to be common for all employees like the level of salary, intra departmental cooperation, clear work instructions, safe working conditions and interpersonal relations with peers. Apart from that, both the groups of executives & non-executives had their specific set of variables influencing their job satisfaction.

Keywords: Job satisfaction, Bhilai Steel Plant, Job Security, Interpersonal Relations, Work environment, Level of salary

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1. INTRODUCTION

Every action is more or less governed by the forces which stimulate a person to act towards the desired goal. These forces, collectively known as motivation, constitute both the cause & effect of action. Extrinsic motivation depends on external factors rather than specific features like attitude, core beliefs, values & personality of the person. The factors relating to this motivation are somewhat in control of an organization and can be influenced easily by right type of plans & policies so as to induce an individual to acquire new skills/knowledge to improve performance. A workplace provides a suitable domain where the effect of extrinsic motivation is most dominant & evident in the form of job satisfaction.

Secondary sector builds on & strengthens the foundation of the economy laid down by the primary sector. Steel industry plays a crucial role in the industrial development of a country. India is the 3rd largest producer of crude steel and the leading producer of sponge iron in the world. With abundant supply of raw materials and labour, this sector is a major contributor to India’s manufacturing output. The increase of 9.4% in crude steel production in August 2016 along with decrease of 34.5% in steel imports & rise in steel exports by 23.6% are clear indicators of this expanding sector. Future growth prospects seem positive with expected rise in domestic consumption as a result of increase in infrastructure construction & growing demand in automobile & railway industries. Steel Authority of India Limited (SAIL) is one of the India’s fastest growing PSUs that secured the leader position in FY 16(1) in the steel sector with its contribution of 13% to country’s finished steel production and about 16% to crude steel production.

Bhilai Steel Plant (BSP) is the largest and the most profitable unit among the nine major plants of SAIL. It’s the only producer of rails & heavy steel plates in the country and holds the record of winning Prime Minister’s Trophy for the best integrated steel plant 11 out of total 21 times as well. Its diverse employee base provided a rich sample of people from different regions, educational qualifications, cultural backgrounds etc. employed in a wide range of roles. The purpose of this study is to try and identify the leading drivers of job satisfaction among the employees of BSP and to check if they differ by job profile. It also aims to gauge the magnitude
of variation and underlying reasons for such difference by taking into account personal, organizational, environmental and occupational characteristics.

2. LITERATURE REVIEW

Saziye Gazioglu & Aysit Tansel (2006) - They investigated the relationship between job satisfaction and job characteristics & personal attitudes of employees. Using the data Workplace Employee Relations Survey conducted in 1997 among British employees, they tried to gauge the effect of nature of job, salary, sense of achievement derived from work & respect earned from supervisors on employee satisfaction. Out of 28,240 responses, it was found that women, aged employees, non-union members, managers, professionals and clerks were comparatively more satisfied. Higher remuneration, job training, short working hours & small organizations contributed towards greater satisfaction. Across different industries, employees of electricity, gas, water and construction companies were found to be more satisfied. Employees working in education and health sector were satisfied with the sense of achievement their jobs provided but were less contented in respect of remuneration.

Paul E. Madlock (2008) - He explored the effect of communication ability & leadership styles of supervisors on employees’ satisfaction regarding job and communication. For this purpose, 220 employees of companies situated in north central United States were surveyed. Both job & communication satisfaction were found to be strongly related with how well the supervisor communicated with his subordinates and the way he maintained interpersonal relations to get the work done. Out of the two main factors considered in the study, communication ability of supervisor was found to be more effective in influencing the employees’ satisfaction.

Harouna Saibou (2011) – The study was focused on examining the job satisfaction of public sector employees of Niger. Survey was conducted among 203 employees through telephone and mail. The questionnaire covered both the demographic factors & the job related aspects. Statistical techniques of mean, standard deviation and correlation were used to analyze the data. The respondents were found to be satisfied with their colleagues, supervisors and job. However, they had higher expectations in terms of higher salary & better opportunities for promotion. Out of the demographic factors, only marital status had no effect on the perception of job satisfaction.
A. Nikolaou, I. Theodossiou & E.G.Vasileiou (2005) - They studied the relationship between job security and job satisfaction in seven different European countries. The survey was conducted among 6,326 employees by means of questionnaire that dealt with questions related to their feelings towards employment, job related attitudes, work organization and other demographic variables. They found that job security enhanced performance and also added to job satisfaction. It’s positively related to marital status, public sector employment, long tenure, age & union membership. Workers in Greece, Spain and Netherlands were more content than their counterparts in Great Britain.

Nilay Yavuz (2004) – The paper intended to determine the degree to which non-monetary incentives were used in public sector of Turkey. For this purpose, a survey was conducted among 78 employees in General Directorate of Investment & Enterprises and data collected was analysed by t-test & Pearson Chi Square test. Results depicted that though employees admitted to the effectiveness of non-monetary incentives in raising their job satisfaction levels, they felt that incentives given by their organisations were inadequate. They were in general not satisfied with their salary, yet were open in accepting the importance of a meaningful job with responsibility, autonomy, skill variety, task significance, feedback etc.

3. RESEARCH METHODOLOGY
Quantitative research design was used to investigate the magnitude of job satisfaction. The respondents selected for study included about 1200 employees working in the Bhilai Steel Plant in different sectors covering multiple segments based on age group, gender and job profile. The survey did not delve into the reasons behind the choice of variables by the employees as drivers of their satisfaction and dealt only with collecting the facts about average employee’s perception of job satisfaction. A common questionnaire was made & administered for all employees so as to measure the satisfaction on a uniform scale using a standard set of questions. It involved a set of close ended questions with responses to be indicated on Likert scale options. The scale of 0-5 showed the degree to which the person agrees or disagrees with the statement. Overall job satisfaction was regarded as the dependent variable in this study. Following factors were taken as the independent variables:

- Gender of the respondent
- Age group the respondent belongs to
- Tenure of respondent in the organization
- Equal opportunities for participation in decision making
- Clear policies regarding salaries, raises and bonuses
- Cooperation between different departments to accomplish goals
- Authority & responsibility given to employees as per role
- Challenging & interesting work
- Manageable daily workload
- Safe and comfortable working conditions
- Clear work instructions by seniors
- Access to seniors as and when needed
- Feedback by seniors on regular basis
- Adequate training for the employees as per the role
- Opportunities to develop knowledge and skills at work
- Fair distribution of work in a group
- Friendly and helpful colleagues
- Performance incentives being linked to standards and goals
- Level of salary & raises
- Job security and stability
- Free access to medical facility
- Subsidized residential facility
- Subsidized education for children

Test Reliability and Validity

Here, reliability was established through the internal consistency method. Cronbach’s Alpha was used to establish the required reliability of the questionnaire. The value of Cronbach’s Alpha was found to be 0.92 for the questionnaire used in this study.

George and Mallery (2003) provided the following guidelines for interpreting Cronbach Alpha’s reliability coefficient for Likert type scales:

“≥ .9 – Excellent, ≥ .8 – Good, ≥ .7 – Acceptable, ≥ .6 – Questionable, ≥ .5 – Poor, and < .5 – Unacceptable” (p. 231).
Thus, it’s clear from the calculation of Cronbach’s Alpha that questionnaire had excellent test reliability.

Here, validity was established through criterion validity method, specifically the concurrent validity. Pearson correlation coefficient was used to compare the test under validation and the credible Minnesota Satisfaction Questionnaire (short form) as the reference criterion standard. The value of correlation coefficient between test scores and criterion score was found to be 0.689 which was greater than the critical value of correlation coefficient of 0.273 at 95% level of significance. Thus, it’s clear from the calculation of Pearson correlation coefficient that questionnaire had excellent test validity.

4. DATA ANALYSIS
The data obtained by the survey of the employees of Bhilai Steel Plant was divided into 2 groups namely, E band and S band which comprised of officers and workers respectively. Of the questionnaires distributed among the employees, 1000 were completely filled and were considered for further analysis. There were 548 responses in all in E band and 452 responses in S-band. The data is analyzed using Microsoft Excel and R.
Both descriptive and inferential statistics are used for the statistical analysis of the collected data. In this study, measures of mean, median, maximum value, minimum value, first and third quartile are used under descriptive statistics. The inferential statistical methods used for testing the hypotheses of the research are Chi-Square Test, ANOVA, Multiple Regression Analysis, Pearson Product Moment Correlation Coefficient.

Of the 548 officers who answered the survey questions, there were 445 males and 103 females. When tenure of those employees was considered, it was found that 55.47% of them were working for more than 15 years, 26.64% for 10-15 years, 7.48% for 6-10 years and 10.4% of people for 1-5 years. 12.77% respondents belonged to the age group of 55 and above, 44.7% were between 45-55 years, 30.84% were between 35-45 years and 11.68% were between 25-35 years. The 452 workers who volunteered for the survey consisted of 372 males and 80 females. 70.8% of people were with the company for more than 15 years, 23.67% had completed 10-15 years, 2.2% had completed 6-10 years and 3.3% people held their positions for 1-5 years in the
company. 6.64% of the surveyed workers were in age group of 55 and above, 57.52% were between 45-55 years, 31.42% were between 35-45 years and 4.42% were between 25-35 years.

Table 1. Results of Pearson’s Coefficient of Correlation

<table>
<thead>
<tr>
<th>Questions and variables</th>
<th>E_band</th>
<th></th>
<th></th>
<th>S_band</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correlation Coefficient</td>
<td>Strength of correlation</td>
<td>Correlation Coefficient</td>
<td>Strength of correlation</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>0.097</td>
<td>Weak</td>
<td>0.21</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Years</td>
<td>0.15</td>
<td>Weak</td>
<td>-0.17</td>
<td>Weak</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>0.25</td>
<td>Moderate</td>
<td>-0.07</td>
<td>Weak</td>
<td></td>
</tr>
<tr>
<td>Equal opportunities for participation in decision making</td>
<td>0.51</td>
<td>Strong</td>
<td>0.37</td>
<td>Strong</td>
<td></td>
</tr>
<tr>
<td>Clear policies regarding salaries, raises and bonuses</td>
<td>0.45</td>
<td>Strong</td>
<td>0.42</td>
<td>Strong</td>
<td></td>
</tr>
<tr>
<td>Cooperation between different departments to accomplish goals</td>
<td>0.56</td>
<td>Strong</td>
<td>0.32</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Authority &amp; responsibility given to employees as per role</td>
<td>0.55</td>
<td>Strong</td>
<td>0.33</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Challenging &amp; interesting work</td>
<td>0.52</td>
<td>Strong</td>
<td>0.33</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Manageable daily workload</td>
<td>0.37</td>
<td>Strong</td>
<td>0.28</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Safe and comfortable working conditions</td>
<td>0.51</td>
<td>Strong</td>
<td>0.25</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Clear work instructions by seniors</td>
<td>0.52</td>
<td>Strong</td>
<td>0.24</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Access to seniors as and when needed</td>
<td>0.35</td>
<td>Moderate</td>
<td>0.41</td>
<td>Strong</td>
<td></td>
</tr>
<tr>
<td>Feedback by seniors on regular basis</td>
<td>0.53</td>
<td>Strong</td>
<td>0.35</td>
<td>Moderate</td>
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<tr>
<td>Adequate training for the employees as per the role</td>
<td>0.46</td>
<td>Strong</td>
<td>0.50</td>
<td>Strong</td>
<td></td>
</tr>
<tr>
<td>Opportunities to develop knowledge and skills at work</td>
<td>0.54</td>
<td>Strong</td>
<td>0.48</td>
<td>Strong</td>
<td></td>
</tr>
<tr>
<td>Fair distribution of work in a group</td>
<td>0.50</td>
<td>Strong</td>
<td>0.40</td>
<td>Strong</td>
<td></td>
</tr>
</tbody>
</table>
Correlation Interpretation:
The correlation coefficient obtained for different independent variables is interpreted in the following manner: (as given by Hair, J. F. et al. 2006)

\[ \geq +/- 0.8 \] - very strong correlation – almost all of dependent variable is explained by independent variable

\[ +/- 0.36-0.60 \] - strong correlation - nearly all of dependent variable is explained by independent variable

\[ +/- 0.21-0.35 \] - moderate correlation - definitely some correlation but far from all

\[ < +/- 0.20 \] - weak correlation - may be some correlation between variables

Inference:
Individual factors covered by the questions show moderate to strong correlation with job satisfaction. This is because any factor by itself does not determine job satisfaction. Satisfaction depends upon a combination of all these factors. The combined effect of all these factors on job satisfaction is high, as is confirmed by the regression exercise below.

Table 2. Results of Multiple Regression Analysis

<table>
<thead>
<tr>
<th>E_band</th>
<th>S_band</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant variables in regression model</td>
<td>p values in multiple regression</td>
</tr>
<tr>
<td>Equal opportunities for</td>
<td>0.000187</td>
</tr>
<tr>
<td>Participation in decision making</td>
<td>Salaries, raises and bonuses</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Cooperation between different departments to accomplish goals</td>
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<td>Challenging &amp; interesting work</td>
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<td>Safe and comfortable working conditions</td>
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<td>Feedback by seniors on regular basis</td>
<td>Access to seniors as and when needed</td>
</tr>
<tr>
<td>Friendly and helpful colleagues</td>
<td>Adequate training for the employees as per the role</td>
</tr>
<tr>
<td>Level of salary &amp; raises</td>
<td>Friendly and helpful colleagues</td>
</tr>
<tr>
<td>Free access to medical facility</td>
<td>Performance incentives being linked to standards and goals</td>
</tr>
<tr>
<td>Subsidized education for children</td>
<td>Level of salary &amp; raises</td>
</tr>
<tr>
<td></td>
<td>Job security and stability</td>
</tr>
<tr>
<td></td>
<td>Subsidized residential facility</td>
</tr>
</tbody>
</table>

**Inference:**
The p values for each variable in the final regression model obtained after omitting irrelevant variables in model iterations, for both the groups of officers & workers are less than 0.05. This shows that there is 95% probability of relationship between these independent variables and the dependent variable of job satisfaction.
5. FINDINGS

Overall Satisfaction

About 72% (396 out of 548) of all the officers were found to be satisfied with their job at Bhilai Steel Plant (BSP) while only about 7% (36 out of 548) expressed their discontent. Among the workers, 74% (334 out of 452) of the participants reported to be satisfied with their job and mere 3% (16 out of 452) of them voiced their dissatisfaction. With such low percent of dissatisfied workforce, a sizable portion of employees seemed to be fairly content working at the company. There was not much difference between the satisfaction of executives and non-executives which brings out the fact that the facilities, opportunities & benefits are equally provided to all employees on the basis of their competence & efficiency.

Drivers of Satisfaction common for Both Officers & Workers

Of the variables chosen in the study to analyze the key drivers of job satisfaction, some variables were reported as significant by both officers and workers. The common variables included cooperation between different departments to accomplish goals, safe & comfortable working conditions, clear work instructions given by seniors, friendly & helpful colleagues and the level of salary & raises in the organization.

Drivers of Satisfaction for Workers only

There were some distinct variables which affected workers but had rather weak influence on job satisfaction of officers. They included clear policies regarding salaries, bonus & raises, authority & responsibility given as per role, access to seniors as & when needed, adequate training as per role, performance incentives linked to standards & goals, job security & stability and subsidized residential facility.

6. IMPLICATIONS

The analysis of data and the findings gleaned from it, bring out some interesting observations. It was assumed in the null hypotheses that as all the employees of Bhilai Steel Plant are being provided with same facilities, their levels of job satisfaction will not vary considerably. However, results of the survey disagree with the notion. Not only employees have denied the
influence of some factors on job satisfaction altogether but also have reacted differently to some others according to their designations.

**Suggestions to improve job satisfaction among all employees:**

- To enhance the cooperation among different departments, achievement of an individual as a member of a group can be made a part of the performance appraisal.
- The departmental heads can also advocate conducting cross functional training programs so as to enable employees of different departments to interact with each other thereby strengthening the harmony among them. Voluntary team assignment can also result in greater cooperation among members, thus making the team more productive.
- The safety department can ensure that not only latest safety measures are installed in the plant but also identify the old machines which need to be replaced by new ones.
- Safety checks by outside sources can be conducted once in a year. Office equipment, furnishings, restrooms, canteen facilities etc. can be upgraded from time to time.
- The senior employees can take care that their instructions for their subordinates are unambiguous, in written format & having a time frame within which the work should be completed. If needed, they can guide the subordinates by being at the spot to ensure that they understand their directions correctly.
- Company can sponsor social activities like picnics, parties, sports activities etc. so that employees get to know each other well.
- Seminars can be conducted on general topics of problem solving skills, tactics for handling difficult situations, time management, stress management, optimism, attitude of gratitude, emotional intelligence etc.
- Counselors can be appointed to help employees deal with their personal problems in a better way.
- The company can consider increasing the difference of grade pay by designation level among officers, i.e. provide higher increment from one level to the next.
- The increments of employees after rise of their salary levels to higher grades should be adjusted without delay.

**Suggestions to improve job satisfaction among officers:**
• The sectional, departmental & functional heads can hold regular meetings to communicate & discuss the decisions with executives working under them. They can ask for their opinions & suggestions to improve the anticipated effect of decision on the company.

• The officers can be given new team to work with from time to time and also they can be rotated among different departments after each promotion so that they can get new work experience.

• Their seniors can give them projects dealing with areas they specialize in. While expanding their duties and responsibilities, a balance between job enrichment & job enlargement can be maintained so as to harness the optimum capacity of the executives.

• Departmental heads can conduct meetings on quarterly basis with officers to personally discuss their performance. When an executive completes a project, his senior can give him written feedback highlighting his plus points and suggesting ways for further improvement.

• The company can introduce provision of reimbursing medical expenses of its executives to a certain extent. Also, the full body checkup of officers which is done once in 3 years can be done on annual basis.

• The amount of money given as scholarship to meritorious students for higher studies can be raised. Also, the schools run by the organization can conduct science fairs and other interactive, creative & knowledge building activities for students during summer vacations.

Suggestions to improve job satisfaction among workers:

• The company can introduce the policy of increasing the salary of workers in same proportion as that of officers if government declares pay revision. Also, the policy regarding bonuses can be changed so that bonus received by is in equal proportion as that of officers.

• The supervisors & junior executives can show confidence in the ability of workers & give them some freedom to work. They can empower them by assigning charge of tasks at small scale.
• The sectional head can hold fortnightly meetings with workers where they can bring up their complaints, problems & queries. Regular on-site visits & surprise checks can be done by lower management officials to assess the work of supervisors & interact personally with workers.

• The organization can provide hands-on short term training to newly joined workers in every department & then they can be appointed in a particular department, considering their caliber, potential & interest.

• The performance incentives given to the workers can be monetary, non-monetary or a mix of both, depending on complexity of job & preference of the individual. The company can organize an annual competition for workers to win incentives either for completing the work in a given time limit or reaching a particular target.

• The executives of lower management can be more vocal about their appreciation for workers’ efforts. They can discuss their performance appraisal with them & show genuine interest in their career progress so that they feel that their future is bright & safe with the company.

7. LIMITATIONS OF THE STUDY
The research studied a small sample of total number of employees in SAIL. More in-depth insights could be gained with greater number of respondents.

There is a chance of biased opinions expressed by the employees in the survey. Their level of interest and willingness to respond might have affected responses in the questionnaire.

The study used quantitative methods to analyze the data. This might bring in the drawbacks of narrow dataset, standard questions & lack of depth as only objective elements were considered and the possibility of structural bias & false representation.

The range of questionnaire was somewhat limited due to small set of questions focussing on specific factors only. It could not cover all the aspects of job satisfaction since it has many dimensions.
8. FUTURE RESEARCH DIRECTIONS
The research can be extended in the direction of analyzing job satisfaction of BSP employees over a period of 5-10 years. The introduction of time factor can help to understand the changing needs & expectations of employees brought in by changes in technology, work approach and stage of life they are in.

Job satisfaction of employees working in different plants of SAIL can also be comparatively analyzed. A comparative analysis of preferences, attitudes & perceptions of employees can be conducted. Satisfaction of workers can also be investigated in respect f whether satisfaction with the union affects the satisfaction of workers with plant as well. Finally, job satisfaction of different types of employees can also be explored, i.e, officers, workers, trainees, contractual labourers, working in different areas of the organization like works, mines, general administration, construction, township etc.

9. CONCLUSION
Generally, Indian public sector is presumed to provide high job satisfaction as it guarantees secure jobs & several incentives. However, several other factors also affect job satisfaction as brought out by the findings of this study. The workers & officers had similar overall job satisfaction. However, their perception of organizational effectiveness on different facets differed with workers having a broader set of factors affecting their job satisfaction. This highlighted the fact that both the sections have different vocational priorities.

To ensure the contentment of its workforce, BhilaiSteel Plant needs to make sure that the level of salaries & raises matches the employee performance. Both officers & workers have admitted to its significance as a driver of their job satisfaction. It also should promote policies based on inter team & intra team cooperation, which will provide an opportunity to share ideas when people from different teams collaborate on a common project. The directions given by the superiors play a definitive part in shaping the perception of job satisfaction of BSP employees. Given the overall satisfaction level is high as indicated by the survey; the relationship between manager & repartee is conducive to employees’ growth.
The nature of work affects the job satisfaction of officers in the sense that it provides necessary stimulation for personal development & helps to keep stress at bay. Non-monetary incentives included in the study have a comparatively greater impact on officers. Specifically, the medical & educational facilities are more crucial for them. The management style of senior executives seems to affect officers considerably. They derive satisfaction from the fact they are being able to share space with company’s decision makers.

Workers value job security more than the officers who do not seem to consider its influence on job satisfaction. This can be an indication towards their being open to new opportunities at other places. Transparency in working practices and democracy in organizational culture together contribute more to job satisfaction among workers employed at BSP. They seek clarity regarding organizational policies & their implementation. Interaction with senior colleagues also features as a prioritized area of workers ‘satisfaction. They value their guidance & support extended in form of adoption of an open door policy. Although the age of an employee & his tenure in the organization had minimal effect, both factors showed a slightly inverse relationship with job satisfaction of workers.

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