

A Project Report

On

**“Impact of Industrial Relation Policies on  
Satisfaction Level of Employees at Rourkela Steel Plant”**

Submitted in partial fulfilment of the requirements for the degree of  
Master of Business Administration (MBA)

By

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### CERTIFICATE

This to certify that the project entitled — “**Impact of Industrial Relation Policies on Satisfaction level of Employees at Rourkela Steel Plant**” submitted by Biswajit Pal bearing roll number 313sm1008 for the partial fulfilment of the requirements for the degree of Master of Business Administration embodies the genuine work done under his supervision.

Place: Rourkela

Signature of the Guide

Date:

## DECLARATION

I do here by declare that this project report entitled - **“Impact of Industrial Relation Policies on Satisfaction level of Employees at Rourkela Steel Plant”** under the guidance of Professor Dr. Chandan Kumar Sahoo is my genuine work & is not submitted to anywhere else before. I have done this project for the partial fulfilment of requirement of my course curriculum of Master of Business Administration in Human Resource in School Of Management, NIT Rourkela.

Place: Rourkela

Biswajit Pal

Date:

## **ACKNOWLEDGEMENT**

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An in-depth study of the project topic chosen requires continued interest and persistent guidance from the project guide. I take immense pleasure in showing my deep gratitude, sincerest thanks

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Biswajit Pal

## **EXECUTIVE SUMMARY**

In today's dynamic business environment, every organization wants to be a successful organization. It cannot be possible without Human Resource (HR). The most important asset i.e. Human Resource (man power) is known as life blood of any organization. The success of any organization depends upon the performance of their Human Resource. If question arises to find out the most important difference between ordinary organization and successful organization, the answer would be their HR. The organization also wants quality people. The greatest challenge before every organization is to recruit right people in right place. HR is the factors. Employee and Employer both are important. They are the two sides of the same coin. One cannot operate without the services of the other. The main purpose of this study is to observe the industrial relation operation and satisfaction level of the employees, to observe the different welfare schemes provided by the industry.

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**CHAPTER-1**  
**(INTRODUCTION)**

## **INTRODUCTION**

Industrial Relation is a dynamic socio-economic process. It a designation of a whole field of relationship that exists because of the necessary collaboration of men and women in the employment process of industry”. It is not the cause but an effect of social, political and economic forces.

In order to understand the issues and problems associated with industrial relations, it is desirable to study its various evolutionary phases. Practically speaking, the growth of industrial relations in India is in no way different from that of other parts of the globe. The various stages of industrial relations progressed from primitive stage to factory or industrial capitalism stage. The emergence of tripartite consultative system and voluntary and statutory approach to industrial relations, immensely contributed to the growth of a particular system of industrial relations in our country. Also the fast changing technological development, industrial production techniques, and ideological values have brought forth in the industrial world a unique type of employer-employee relationship. For a proper theoretical perspective of industrial relations, it seems essential to have a historical review of industrial relations in India.

Economists have traditionally identified four factors of production, viz., land labour, capital and organization. The role of labour as a factor of production is becoming increasingly important in the modern society. Capital and natural resource endowments, no doubt, are vital elements in the production process but it is labour which contributes most to the wealth of a company. “Human beings are the active agents who accumulate capital, exploit natural resources, build social, economic and political organizations and carry forward national development”. Growing industrialization and the rapid expansion of the services sector resulted in the galloping demand for skilled labour after 50s. The emergence of the concept of human relations, human resource management (HRM) and human resource development (HRD) contributed to the growing importance of labour. The issue of Industrial Relations arose from the issue of divorce of the workers from the ownership and management of the production process. This has brought about a sense of deprivation and loss of independence on the part of workers and is probably the primary cause of industrial disputes. Industrial work has drastically reduced the independence of workers and made them mere cogs in the machine – a kind of second class citizens“. The

disciplinary rules for work have become quite harsh and arbitrary. The heterogeneous nature of workers, illiteracy and politicization of trade unions made it impossible for the workers to bargain for their rights united. All these factors have led to growing unrest among the rank of workers.

The term „Industrial Relations“ refers to relationship between Management and Labour or among Employees and their Organizations that characterize or grow out of employment. Theoretically speaking, there are two parties in the „employment“ relationship – labour and management. Both parties need to work in a spirit of cooperation, adjustment and accommodation. In

their own mutual interest certain rules for co-existence are formed and adhered to. Over the years, the State has also come to play a major role in Industrial Relations – one, as an initiator of policies and the other, as an employer by setting up an extremely large public sector.

There are points to examination of the Industrial Relations:

Employer-Employee interactions: Industrial Relations arise out of employer-employee interactions. These relations cannot exist without the basic building blocks, i.e., the employer and on one side and the employees on the other side.

2. Web of rules: Industrial Relations are a “web of rules” formed by the interaction of the government, the industry and the labour. They include the relations between employer and employees and between employers` associations, trade union as well as the State.

3. Multidimensional: Industrial Relations are fairly multi-dimensional in nature as they are influenced, by a complex set of institutional, economic and technological factors.

4. Dynamic and changing: Industrial Relations change with the times, generally keeping pace with the expectations of employees, trade union, employers` associations, and other economic and social institution in a society.

5. Spirit of compromise and accommodation: The Industrial Relations system is characterized by forces of conflict and compromise on either side. In the large interests of society, both the employer and the employees must put out fires amicably and get along with each other in a spirit of compromise and accommodation. The individual differences and disagreements must be

dissolved through persuasion and even pressure. The factors responsible for conflict situations need to be resolved through constructive means.

6. Governments role: The government influences and shapes Industrial Relations with the help of laws, rules, agreements, awards of courts and emphasis on usages, customs, traditions, as well as the implementation of its policies and interference through executive and judicial machinery.

7. Wide coverage: The scope of Industrial Relations is wide enough to cover a vast territory comprising of grievances, disciplinary measures, ethics, standing orders, collective bargaining, participatory schemes, dispute settlement mechanisms etc.

8. Interactive and consultative in nature: Industrial Relations include individual relations and joint consultation between labour, management.

Steel is crucial to the development of any modern economy and is considered to be one of the backbones of human civilisation. The level of per capita consumption of steel is treated as an important index of the level of socio-economic development in a country.

From only three steel plants, a few electric arc furnace-based plants and a mere one million tonne (MT) capacity status at the time of Independence, India is now the fourth largest crude steel producer in the world and the largest producer of sponge iron.

Presently, steel contributes to nearly two per cent of the gross domestic product (GDP) and employs over 500,000 people. The total market value of the Indian steel sector stood at US\$ 57.8 billion in 2011 and is expected to touch US\$ 95.3 billion by 2016. India's per capita steel consumption stood at 57.8 kilograms in 2013, according to a World Steel Association report and is expected to rise with increased industrialisation throughout the country.

It is common today to talk about "the iron and steel industry" as if it was a single entity, but historically they were separate products. The steel industry is often considered an indicator of economic progress, because of the critical role played by steel in infrastructural and overall economic development.

In 1980, there were more than 500,000 U.S. steelworkers. By 2000, the number of steelworkers fell to 224,000.

The economic boom in China and India has caused a massive increase in the demand for steel in recent years. Between 2000 and 2005, world steel demand increased by 6%. Since 2000, several Indian and Chinese steel firms have risen to prominence like Tata Steel (which bought Corus Group in 2007), Shanghai Baosteel Group Corporation and Shagang Group. Arcelor Mittal is however the world's largest steel producer.

In 2005, the British Geological Survey stated China was the top steel producer with about one-third of the world share; Japan, Russia, and the US followed respectively.

In 2008, steel began trading as a commodity on the London Metal Exchange. At the end of 2008, the steel industry faced a sharp downturn that led to many cut-backs.

The world steel industry peaked in 2007. That year, ThyssenKrupp spent \$12 billion to build the two most modern mills in the world, in Calvert, Alabama and Sepetiba, Rio de Janeiro, Brazil. The worldwide Great Recession starting in 2008, however, sharply lowered demand and new construction, and so prices fell. ThyssenKrupp lost \$11 billion on its two new plants, which sold steel below the cost of production. Finally in 2013, ThyssenKrupp offered the plants for sale at under \$4 billion.

### **Rationale of the study**

To find out the satisfaction level of employee by taking different aspects of Industrial Relation policies into consideration like Welfare Measures, Working Conditions, Grievance Handling, Standing Order, Employee Involvement and Empowerment.

## 1.1 Market size



Source: Indian Brand Equity

### Foundation

India is slated to become the second-largest steel producer in the world by 2015. Steel production in the country has increased at a compound annual growth rate (CAGR) of 6.9 per cent over 2008-2012.

India's real consumption of total finished steel grew by 0.6 per cent year-on-year in April-March 2013-14 to 73.93 MT, according to the Joint Plant Committee (JPC), Ministry of Steel.

Increasing demand by sectors such as infrastructure, real estate and automobiles at home and abroad has put India on the world map. The construction sector accounts for around 60 per cent of the country's total steel demand while the automobile industry accounts for 15 per cent.

## 1.2 Investments

The steel industry and its related metallurgy and mining industries have witnessed quite a few investments and developments in the recent past. Some of the notable investments are as follows:

L&T Special Steels and Heavy Forgings have entered into a five-year technology transfer agreement with Japan Steel Works. This agreement covers transfer of critical technology for steel-melting and heavy forgings made from ingots weighing up to 200 tonnes and for the hydrocarbon and thermal power sectors.

JSPL Group has commissioned a greenfield 2 MT steel plant in Sohar, Oman at an investment of US\$ 800 million. The greenfield unit will be one of the largest steel plants in the Gulf region.

Steel Authority of India Ltd (SAIL) has secured contracts for supplying over 117,000 tonnes of rails after successful bids for two global tenders floated by Rail Vikas Nigam Ltd (RVNL), for major upcoming passenger rail line projects in India.

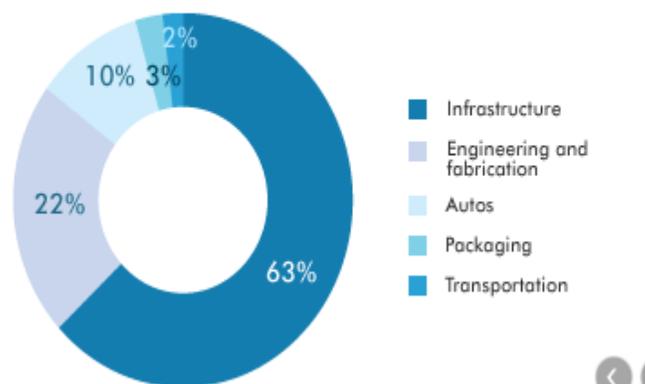
JSW Steel plans to commission a Rs 4,500 crore (US\$ 748.55 million) cold rolling mill (CRM) at its integrated steel plant in Torangal, Karnataka. The unit, which will produce high-strength auto-grade steel, has an installed capacity of 2.3 million tonnes per annum (MTPA).

JSW Steel is also set to acquire Welspun Maxsteel for about Rs 1,100 crore (US\$ 182.98 million) in a move aimed at sourcing cheaper raw material, bringing down production cost and enhancing its presence in the northern and western markets.

Canada has invited Coal India Ltd (CIL) to explore mining opportunities in British Columbia, as per Mr Stewart Beck, Canadian High Commissioner in India.

### Sector-wise steel consumption in India

Infrastructure is India's largest steel consumer, accounting for 63 per cent of total consumption in FY11.



**Source: Indian Brand Equity Foundation**

### 1.3 Government Initiatives

Ministry of Steel, Government of India, is considering setting up a strong research and development (R&D) mission/centre, virtual or otherwise, to step up innovative research and technology development in the country's steel industry.

The Centre's Steel Development Fund (SDF) and Plan Scheme presently provide financial assistance for R&D in the sector. Under the SDF scheme, 82 R&D

projects have been approved with total project cost of Rs 677 crore (US\$ 112.61 million) where in SDF assistance is Rs 370 crore (US\$ 61.54 million). Under the Plan Scheme, eight projects have been approved with a total cost of Rs 123.27 crore (US\$ 20.51 million) where in government assistance is Rs 87.28 crore (US\$ 14.51 million).

In order to increase industrial activity, the Government of India, through the Ministry of Steel, has signed Memorandums of Understanding (MoUs) with all the major steel producing Public Sector Undertaking (PSU) companies such as SAIL and Rashtriya Ispat Nigam Ltd (RINL). These will help to direct the companies to achieve targets and benefit the sector as a whole.

#### **1.4 Road Ahead**

The liberalisation of the industrial policy and other initiatives taken by the government have spurred the growth of the private sector in the steel industry. While the existing units are being modernised or expanded, a large number of new steel plants have also come up in different parts of the

country based on cost-effective and state-of-the-art technologies. In the last few years, the rapid and stable growth of the demand side has also prompted domestic entrepreneurs to set up fresh green field projects in different states of India.

With the increase in global population, there is a greater need for steel to build public-transport infrastructure. Emerging economies will continue to drive demand as these countries require a significant amount of steel for urbanisation and industrialisation purposes. India's steel sector is anticipated to witness investment of about Rs 2 trillion (US\$ 33.26 billion) in the coming years, as per Tata Steel.

Exchange Rate: INR 1 = US\$ 0.0166 as on July25, 2014

**CHAPTER 2**  
**(COMPANY PROFILE)**

## **COMPANY & PRODUCT PROFILE**

Rourkela Steel Plant (RSP), in Rourkela, Odisha is the first integrated steel plant in the public sector in India. It was set up with West German collaboration with an installed capacity of 1 million tonnes in the 1960s. It is operated by India. German Metallurgical firm Mannesmann, Krupp, Demag, Siemens and Voestalpine provided machinery and consultancy to the plant among others. Rourkela Steel Plant was the first steel plant in Asia to use the LD (Linz-Donawitz) process of steel-making. Rourkela Steel Plant has an associated fertilizer plant that produces nitrogenous fertilizers using ammonia feedstock (from its coke oven plant). On 3 February 1959, then president Rajendra Prasad inaugurated RSP's first blast furnace named 'Parvati' when the company was known as Hindustan Steel Limited (HSL). Subsequently, the RSP became a unit of the Steel Authority of India Ltd (SAIL).

RSP presently has the capacity to produce 2 million tonnes of hot metal, 1.9 million tonnes of crude steel and 1.67 million tonnes of saleable steel. It is SAIL's only plant that produces silicon steels for the power sector, high quality pipes for the oil and gas sector and tin plates for the packaging industry. Its wide and sophisticated product range includes flat, tubular and coated products.

The capacity of Rourkela Steel Plant (RSP) is expected to rise to 10.8 MTPA by 2025.

### **2.1 Vision**

To be a respected world-class corporation and the leader in Indian steel business in quality, productivity, profitability and customer satisfaction.

### **2.2 Core Strategy**

SAIL strategically continues to be an integrated steel producer, producing steel by the BF-BOF-CC route. Critical to its competitiveness and sustainability is access to key raw materials – iron ore and coking coal. • Strengths of SAIL is its captive iron ore mines near the steel plants. In India, there are rich and sufficient endowments of iron ore and non-coking coal. Choice of technology to use indigenous raw-materials.

## 2.3 Upgrade and Modernisation

The RSP has many firsts to its credit. It is the first plant in Asia to adopt the energy-efficient LD process of steel making and the first integrated steel plant of SAIL which adopted the cost-effective and quality-centred continuous casting route to process 100% of steel produced. The plant has also, for the first time in India, had adopted external desulphurisation of hot metal by calcium carbide injection process. RSP is one of the unique units under the SAIL umbrella with a wide variety of special purpose steels.

After RSP was set up with the help of German collaboration. Subsequently, its steel making capacity was enhanced to 2 million tonnes and added many units to the facility.

A pipe plant and special plate plant were set up during the 1970s for production of ERW pipes and steel plates for defence requirements. NSPCL, a joint venture company of NTPC Limited and SAIL, set up a captive power plant of 120 MW capacity to be self-sufficient.

Rourkela Steel Plant undertook a modernization program in 1988 with an outlay of INR 4500 crores. This revamped the process of supply of raw materials, new oxygen plant, improved techniques in blast furnaces, setting of dolomite plant, cast house, slag granulation plant, supply of raw materials sintering plants and coal handling plants among others. Following the modernization RSP became the first SAIL plant to have adopted continuous casting route for all its hot metal production. It is also the first Indian steel plant to have adopted external desulfurization of hot metal by the calcium carbide injection process.

Steel Authority of India plans to invest for its capacity expansion in its major plants. So Rourkela Steel Plant on modernization and expansion project process is expected to be 4.5 MT steel plant by the year 2013, on existing 2.2 MT. SAIL projected to take SAIL's hot metal production capacity to a level of 23.5 million tonnes by 2012-13.

- 1964: The Fertilizer Plant was set up in the year 1964 with a view to utilizing the residue of the steel plant and the re-utilization of the chemicals.
- 1970: Pipe Plant and Special Plate Plant was set up for production of pipes and steel plates for defence requirements.

- 1988: The modernization of RSP was begun for producing qualitative materials and establishing its importance in the world market.
- 1998: The modernization program with an outlay of INR 4500 crores.
- 2010: RSP-SAIL plans for its capacity expansion in its existing 2.2 MT to 4.5 MT of production.
- 2013: Rourkela Steel Plant unveiled the country's largest blast furnace named "DURGA" having a useful volume of 4060 cubic metres with a production capacity of 8000 tons hot metal per day, thus increasing its production capacity from 2.2 MT to 4.5 MT.

## **2.4 Environment Management**

- As a responsible corporate citizen, RSP has taken effective measures in the area of pollution control in by-product coke oven batteries, Battery No: 4 and 7m tall Battery No: 6. RSP has taken adequate steps to check emissions from coke ovens and has installed air-cooled self-sealing doors resulting in significant reduction in door emissions; doors were designed, manufactured and supplied by Simpex Castings Ltd, Bhilai India.
- Almost all major units of the plant, including its Personnel Department and Steel Township, are certified to ISO:9001 standards. RSP's Silicon Steel Mill, Sintering Plant II, Environment Engineering Department, Plate Mill, Hot Strip Mill, ERW and SW Pipe Plants, Special Plate Plant as well as Steel Township have been awarded ISO:14001 certification for Environment Management.

## **2.5 Awards**

- Srishti Good Green Governance Award for 2010
- Global CSR Leadership & Excellence Awards in 2013
- CII-ITC Sustainability Award 2013
- Greentech Environment Gold Award
- National Energy Conservation Award (2nd Prize)
- Best Corporate Stall

## 2.6 Products

- Plate mill plates
- HR plates
- HR coils
- ERW pipes
- SW pipes
- CR sheets and coils
- Galvanized sheets
- Electrolytic tin-plates silicon steel sheets
- Heavy and chequered plates
- Electrical steel (CRNO/CRGO)
- GP coils and sheets/GC sheets
- The fertilizer plant produces calcium ammonia nitrate (CAN) fertilizer marketed under the brand name "Sona" (gold).

## 2.5 PRODUCTS

| Shop                              | Products  | Annual Capacity (Tonnes) | Product Dimension range (mm)/ Profile  | Width range (mm) | Length (metre)        | End use / consumers  |
|-----------------------------------|---|--------------------------|--|------------------|-----------------------|--|
| <b>Rail &amp; Structural Mill</b> | Rails<br>Heavy Structural's<br>Crane Rails<br>Crossing sleepers | 750000                   | 45Kg, 52Kg & 60 Kg Rails<br>Beam<br>600x210,500x180<br>450x150,<br>400,350,300x140<br>250x125<br>Channel<br>400x100, 300x90<br>250x82<br>Angle<br>150x150, 200x200<br>CR80,100 & 120 |                  | 13, 26, 65, 130 & 260 | Indian Railways, Export<br>Infrastructure Projects<br>Cranes<br>Broad gauge sleepers |
| <b>Merchant Mill</b>              | Lt. Structurals<br>TMT<br>Round                                 | 5,00,000                 | Angle<br>50x50, 65x65<br>70x70, 75x75<br>80x80, 90x90<br>Channel<br>75x40, 100x50<br>TMT   |                  |                       | Engineering and Infrastructure Projects  |

| <b>Shop</b>          | <b>Products</b>  | <b>Annual Capacity (Tonnes)</b> | <b>Product Dimension range (mm)/ Profile</b>   | <b>Width range (mm)</b> | <b>Length (metre)</b> | <b>End use / consumers</b>   |
|----------------------|--|---------------------------------|--|-------------------------|-----------------------|--|
|                      |  |                                 | 20, 25, 28, 32, 36, 40,45<br>Rounds (Plain)<br>28, 30, 32, 36, 40, 50, 53, 56,63, 67 |                         |                       |  |
| <b>Wire Rod Mill</b> | Wire Rods(Plain)<br>Wire Rods (TMT)  | 4,00,000                        | 5.5, 6, 7, 8<br>8, 10, 12  |                         |                       | Electordes<br>Manufacture<br>Infrastructure<br>Projects  |
| <b>Plate Mill</b>    | Plates   | 9,50,000                        | 8 – 160  | 1500<br>–<br>3300       | 4.5 -<br>15.0         | Boilers,<br>Defence<br>,Railways,<br>Ship<br>building,<br>LPG<br>cylinders,<br>Irrigation,<br>Export |
| <b>Semis</b>         | Bloom,<br>NWS<br>Slab &<br>Billets<br>from<br>BBM<br>HC<br>Bloom<br>from<br>CCS<br>Slab<br>from<br>CCS | 5,53,000                        | Billets<br>902 , 1002 , 1102<br>Blooms<br>1502 , 3202                                |                         |                       | Re-rollers   |
| <b>Pig Iron</b>      |  |                                 |  |                         |                       | Foundry  |

| Shop        | Products                             | Annual Capacity (Tonnes) | Product Dimension range (mm)/ Profile   | Width range (mm) | Length (metre) | End use / consumers |
|-------------|--------------------------------------|--------------------------|---|------------------|----------------|---------------------|
| By Products | Coal Chemicals<br><br>Processed Slag |                          | Ammonium Sulphate (Fertiliser)- Brand Name - RAJA<br>Tar products, (Pitch, Napthalene, Creosote Oil Road Tar, Anthracene oil, Dephenolised oil, PCM etc.), Benzol products (NG Benzene, Toulene, Xylene, Solvent oil, Heavy Benzol etc.)<br>Granulated slag from CHSG Plants & SGP for cement manufacture |                  |                |                     |

## 2.6 Long Products

| RAILS  |  |
|--|--|
| Product  | Application  |
| Rail (Carbon-Manganese; 90 Kg/mm <sup>2</sup> UTS)           | Railway Tracks all over the country & also for export customers.                             |
| High YS/UTS Rail (V/Nb Micro-alloyed)                        | Heavy haulage, high density railway tracks   |
| Corrosion Resistant Rail(Cu-Mo & NCC)                        | Corrosion prone regions, mainly coastal areas  |
| Cr-V alloyed High Strength (110 Kg/mm <sup>2</sup> UTS) Rail | Heavy haulage, high traffic density railway tracks; developed for Dedicated Freight Corridor |
| Thick Web Asymmetric Rail                                    | For making high speed switches to be used at Points & Crossings in Railway tracks.           |
| High Conductivity Rail (Rimming quality)                     | High conductivity rail or 'Third Rail' for Metro Trains, made of Rimming steel.              |
| Crane Rail   | Crane rails in CR-80/CR-100/CR-120 sections, used for tracks of different types of cranes    |

| <b>RAILS</b>  |   |
|---|---|
| <b>Product</b>  | <b>Application</b>  |
| <b>MERCHANT &amp; WIRE ROD PRODUCTS</b>                   |   |
| EQR TMT Bar & Wire Rod (8, 10, 12, 25, 28, 32, 36 & 40mm) | Construction of high-rise buildings, bridges & structures in seismic prone areas            |
| HCR TMT Bar & Wire Rod (8, 10, 12, 25, 28, 32, 36 & 40mm) | Construction of high-rise buildings, bridges & structures in corrosion prone areas          |
| Rimming steel for EQ grade Wire Rod                       | Production of low current consuming Arc Welding Electrodes                                  |
| Drawing quality Wire Rod(SWR-10,SWR-14)                   | Drawing of Wire Rods into thinner gauge wires for different applications                    |
| SAIL MA 410 structurals                                   | For construction sector, requiring higher tensile strength                                  |
| SAIL TOWER Semis  | For re-rolling into high strength structurals, for construction of Transmission Line Towers |

## 2.7 Flat Products

| <b>PLATES</b>   |   |
|---|---|
| <b>Product</b>  | <b>Application</b>  |
| Thicker gauge plates (upto 150mm thickness) in Structural quality as per national/international specifications (IS 2062 E250, ASTM A36, EN 10025 S235/S275, etc.) | Fabrication of heavy duty structures in the construction industry   |
| High Tensile plates (SAIL MA 300/350/410/450, IS 2062 E300/E350/E410/E450, EN 10025 S355, JIS G 3106 SM490 A/B, ASTM A572 GR.42/50, etc.)                         | High strength applications in the construction sector, high-rise buildings, bridges, flyovers, heavy machineries, earthmoving equipments, windmills, thermal/hydel power projects |
| Ultra High Strength plates (SAIL MA 550/600, SAIL HITEN 690AR, etc.)  | As rolled plates for applications like Penstocks, heavy duty machineries, defence equipments, thermal/hydel power projects (used in place of                                      |

| <b>PLATES</b>  |   |
|--|---|
| <b>Product</b>   | <b>Application</b>  |
|  | quenched & tempered steel plates)   |
| Boiler Quality plates for use at Intermediate & higher temperature in grade IS 2002 Gr.I/II/III, ASTM A / ASME SA 515 Gr. 60/65/70 | Fabrication of boiler body &/or its different constituents  |
| Boiler Quality plates for use at Moderate & Lower temperature in grade ASTM A / ASME SA 516 Gr.55/60/65/70                         | Fabrication of boiler body &/or its different constituents  |
| High strength Pressure Vessel Quality plates for use at lower temperature in grade ASTM A / ASME SA 537 Class 1, EN 10028 P275     | Fabrication of pressure vessels, storage tanks, mounded vessels used for storing liquefied gases at high pressure                   |
| Creep Resistant plates in ASTM A204, EN 10028 Gr.16Mo3   | High temperature application requiring creep resistance property  |
| Ship Building quality plates in LRS Gr.A/B/D, ABS Gr.A, DNV NV32, AH/DH 32/36  | Construction & repair of Merchant Navy / Cargo vessels  |
| DMR 249A grade plates  | Nickel alloyed Steel with High strength & low temperature toughness for Naval Ships   |
| Line Pipe Quality plates in grades API 5L X-52/X-60/X-65/X-70  | Construction of Line pipes for carrying Oil & Gas   |
| Corrosion Resistant steel plates in grades SAIL-COR, ASTM A 588 Gr.A, IRS M-41, ASTM A 242   | Applications requiring atmospheric corrosion resistance – generally structural's for construction sector & railway wagons & coaches |
| Wear Resistant plates in SAIL-HARD quality   | High strength plates with certified minimum hardness level, for applications requiring wear resistance                              |
| Soft iron steel plates   | For use in construction of magnet   |
| DMR 249A grade plates  | Nickel alloyed Steel with High strength & low temperature toughness for Naval Ships   |

Major Facilities New Steel Melting Shop (180,000 tpa) New Steel Melting Shop (180,000 tpa) New Cold Rolling Mill Complex (146,000 tpa) New Cold Rolling Mill Complex (146,000 tpa) Up-gradation of Existing Cold Rolling Mill gradation of Existing Cold Rolling Mill Roll grinder for Hot Rolling Mill.

Major Facilities Coke Oven Battery (0.78 million tonnes), Sinter Plant (3.8 million tonnes) Blast Furnace (4060 m<sup>3</sup>) with Top Pr. Recovery Turbine (2.7 million tonnes) Basic Oxygen Furnace (BOF) Shop (2.56 million tonnes) Billet Caster (1.67 million tonnes) and Beam Blank/ Bloom Caster (0.8 million tonnes) Heavy Section Mill (0.6 million tonnes), Wire Rod & Bar Mill (1.25 million tonnes.)

Coke Oven Battery Coke Oven Battery-11 (7 m tall); 2 11 (7 m tall); 2nd Sinter M/c in SP Sinter M/c in SP-3 Blast Furnace (4060 m<sup>3</sup>) Steel Melting Shop Steel Melting Shop – III (4.0 million III (4.0 million tonnes) New Casters Bar & Rod Mill (0.9 Bar & Rod Mill (0.9 m t), Universal Rail Rolling M ), Universal Rail Rolling Mill (1.2 million ill (1.2 million tonnes).

7m tall Coke Oven Battery, Sinter Plant (1x360 m<sup>2</sup>) Blast Furnace (4060 m<sup>3</sup>), 3rd BOF, LF, RH BOF, LF, RH-OB Single strand slab caster New plate mill 4.3m (1.0 million New plate mill 4.3m (1.0 million tonnes). Rebuilding of COBs with Pollution Control measures Up gradation .Up gradation of one Blast Furnace of one Blast Furnace Up gradation. Up gradation of existing SMS of existing SMS-II to 3.35 million II to 3.35 million tonnes from 2.85 from 2.85 million tonnes New Cold Rolling Mill Complex (1.2 million New Cold Rolling Mill Complex (1.2 million tonnes)

The brown-field expansion potential of the integrated steel plants has been assessed based on:

- Existing facilities
- Facilities under Ongoing Modernization/Expansion Plan-Phase-I • Facilities that could come under Ongoing Modernization/Expansion Plan-Phase-II
- Capacity Expansion Plan based on exploiting full brown-field capacity integrated steel plants at their existing locations.

Blast furnace is the most acceptable iron making technology for mass production; offers economies of scale.

- Drawbacks:
- Energy intensive

#### EMERGING ALTERNATIVE IRON MAKING TECHNOLOGIES

- Energy intensive
- Environmental Pollution
- Requirement of prepared burden
- Emerging Alternative Iron Making Technologies
- No need for coke oven, sinter plants
- Less Capex
- Environmental friendly
- Use non coking coal, lean iron ore Iron ore:
  1. The future steel plants to use more quantities of beneficiated iron ore
  2. Use of pellets and micro fines in sintering to increase Coking Coal

**CHAPTER 3**  
**(REVIEW OF LITERATURE)**

## **REVIEW OF LITERATURE**

### **3.1 Industrial Relations Policies**

Industrial relations has become one of the most delicate and complex problems of modern industrial society. Industrial progress is impossible without cooperation of labours and harmonious relationships. Therefore, it is in the interest of all to create and maintain good relations between employees (labour) and employers (management). The concept of industrial relations has been extended to denote the relations of the state with employees, workers and their organizations. The subject therefore includes individual relations and joint consultation between employers and work people at their work place, collective relations between employers and their organizations and trade unions and the part played by the State in regulating these relations (The Encyclopaedia Britannica, 1961) Industrial Relations are a vital concern of all the employers, the employees, the government and the general public as a whole (M.K.Singh, 1983). The term industrial relations comprises industry and relations. In simpler terms, industry means any productive activity in which an individual is engaged, and relations means the relations that exist in the industry between the employer and his workmen (R Ram Reddy 1990).

### **3.2 Welfare Measures**

Industrial Relations are broadly concerned with bargaining between employers and trade unions on wages and other terms of employment, the day-to-day relations, within a plant also constitute one of the important elements and impinge on the broader aspects of industrial relations (C.B.Kumar, 1961). In this article says that The term "industrial relations" has developed both a broad and a narrow meaning. Originally, industrial relations was broadly defined to include the totality of relationships and interactions between employers and employees. From this perspective, industrial relations covers all aspects of the employment relationship, including human resource (or personnel) management, employee relations, and union-management (or labour) relations. Since the mid-twentieth century, however, the term has increasingly taken on an arrowed, more restricted interpretation that largely equates it with unionized employment relationships. In this view, industrial relations pertains to the study and practice of collective bargaining, trade unionism, and labour-management relations, while human resource management is a separate, largely distinct field that deals with non

union employment relationships and the personnel practices and policies of employers. Both meanings of the term coexist in the twenty-first century, although the latter is the more common(Kaufman,2003).

### **3.3 Working Condition**

Industrial relations involve at workable solutions between conflicting objectives and values-between incentive and economic security, between discipline and industrial democracy; between authority and freedom, between bargaining and cooperation (R.A.Lester,1964).Problems of human relationship arising from the sale of services for a wage and working on the premises of employers under their control form the subject matter of industrial relations. They exist and grow out of employment and involve relationship between employees and employers and their organizations (A.S.Mathur,1958).The factors which have facilitated the development of harmonious industrial relations. They identified informal, open and uninhibited interpersonal relations between employees and the pressures of production, hierarchical status and day-to-day work problems did not reduce the communication between the individuals (Chellappa and Jhourney,1982). Employees oppose automation, what are the steps to be taken for its smooth introduction and how the staff and their unions can be involved in this task. The utilization and deployment of workforce in the context of automation has also been analysed. He emphasized the inalienable connection between automation and industrial relations and suggested that in their own interest both the managements and the unions must join hands for phased adoption of new technology (Datta ,1990).

### **3.4 Grievance Handling**

Several paradoxes of Indian industrial system and identified that the industrial relations system has now emerged as a major obstacle to technological progress and competition of Indian industries. He concluded that Indian industrialism does not reflect a natural stage of economic evaluation; it may be viewed as a sub-economic system created by the planning strategy of providing industrialization in a society which continues to be poor and technologically backward (Johri,1990).Pointed out that most of the laws pertain to the organized sector only and this comprises only 8% of the total workforce. He stressed that economic development should be the means and the human development, the goal. As regards labour, legislation needs be aligned with the overall shift in economic and industrialization policies. It under

scanned the need to pay attention to the formulation of a timely, adequate and reliable database on labour upon which policy planning may be based (Ratnam,1998). Focused on the Indian Industrial law, its inadequacies for a growing industrial economy and its judicial interpretations and implications in the light of ILO's conventions and universal practices. He strongly argued for pragmatic and practical industrial laws which meet the growing needs of a fast industrializing economy. While pleading for equality in enforcement of laws, he concluded that India can attain the universally acceptable objectives of industrial relations only after an overhaul of the existing industrial laws (Nath,1995).

### **3.5 Standing Orders**

Presented an account of Dunlop's Industrial Relation System theory, critically examining and commenting on Dunlop's methodology, and the theoretical contributions which have been used by other scholars to further develop the frontiers of knowledge in the study of Industrial Relations. Although Dunlop's work attracted criticism from a good number of scholars, the author contended that Dunlop's work still stands out clearly as a monumental effort in contemporary industrial relations analysis (Johnnie,1992). Attempted to develop a conceptual model of effectiveness of industrial relations at the enterprise level by building on two distinct streams of literature-organizational theory and industrial relations. The purpose was to develop an operational model of industrial relations sub- system effectiveness. Her model was helpful in developing linkage between the variables, to assess any given system as to its effectiveness and to identify some of the characteristics of the internal system variables which contribute to effectiveness (Nayar ,1985). Reported the findings of an All-India survey of organizational climate and its influence on labour -management relations. They isolated two factors that together explain 58% of the variation in labour-management relations in India. Those are (1) grievance handling system and (2) scope for advancement. Sharma and (Sundara Rajan,1983).

### **3.6 Employee Involvement & Empowerment**

Several consequences of badly designed legislative controls over Indian industrial relations system. The failure of tripartite consultations in producing the agreed outcomes has left the industrial relations system with only one anchor and it is the body of labour laws as administered by the Government machinery and interpreted

by the courts. Various suggestions are offered for amending the Industrial Disputes Act, 1947. He suggested that in accordance with the requirements of India's more rapidly developing modern economic sector, all the actors, including the Government machinery, would learn to adapt and moderate the IR system to accommodate its main pressures and growth determined needs (Johri,1996).Approached the problem of industrial relations in the context of new economic realities, competitive environment and strategic quest. According to him, the reformation of the industrial relations climate to cope with the emerging strategic environment requires efforts from all the three parties to the system. He suggested that the trade unions need to play a complementary role in understanding the strategic directions, and in turn use their primary power of opinion noting among their members to bring about greater human resource integration in the firms' movement towards the future( Reddy ,1992).Observed that not all industrial restructuring exercises can be lumped together in one undifferentiated category. He identified three distinct patterns, which have been shaped as much by economic environment and market compulsions as by prevailing labour-management relations. He suggested some strategic choices available to labour and management as conventional responses like bargaining and actualisation are proving inadequate in the wake of fundamental changes in work practices and employment relations. (Ghosh,1995).The industrial relations in the private and public sectors in India. He found that industrial relations in both the sectors had progressively deteriorated during 1962-68 and that public sector registered a better performance on the criterion of industrial conflict, but when viewed in the context of its performance in terms of the tripartite forums, the code of discipline, and the prevalent attitudinal climate it has been no difference from the private sector. He concluded that it can't be said with certainty that there exist any linear relationship between ownership and industrial relations (Khurana,1972).Chander (1979) and Rao (1981) have analyzed the Gandhi an philosophy of Industrial relations specifically related to minimum wages, labour strikes and trusteeship and advised to follow Gandhi an values for a congenial industrial atmosphere.

Like employers, unions too have catered only to the physical well-being of the worker and have paid little attention to improve the quality of his work life. He argued that the bond between the worker and the union is not at all strong as the relationship is based on negative motivation. He suggested that employers and unions can co-operate and collaborate with each other if they come to agree upon some common goal like improvement of quality of work life (Sharma,1988).

The role of IR managers in changing industrial scenario and concluded that collective action by individuals on issues of mutual interest shall lay the foundation for individual growth and freedom which shall be fostered by industrial relations managers of the organization (Pandey,1999).The role and effectiveness of labour welfare officer in industrial relations. They concluded that labour welfare officers, by and large, are not able to perform their duties faithfully. They suggested that the mode of appointments and service conditions of the labour welfare officers be suitably modified so as to accord them a reasonable degree of functional autonomy. They also suggested for periodic reports to the Government regarding the welfare activities so that the Government might proceed against the recalcitrant managements(Bhatnagar and Sharma,1984).While studying the aftermath of Structural Adjustment Programme upon the labour standards, Palo et al (2000) pointed out that Structural Adjustment Programme has brought income gains to the working class despite their relative job insecurity.

Examined challenges and strategies of industrial relations in India and suggested for integration and simplification of labour laws and greater autonomy for labour tribunals and conciliation committees. She advocated for modifying Government's strategy based on Japan's model of industrial relations (Leelavathy,2000).

An analysis of changing power dynamics in the emerging industrial relations scenario and suggested to evolve a mechanism, which can facilitate business success in a market economy along with protecting the interest of the working class. He proposed a change in the IR Act which will help managements, workers and unions deal with each other like partners, not opponents (Srivastava,2001).In his study, pointed out that regular, open, two-way communication in the organization is an important prerequisite for promoting proactive IR. It would keep the workers updated with employers changing circumstances, constraints, strategies and plans and giving them an opportunity to adapt and reposition themselves. He advocated for formulating appropriate conduct and disciplinary regulations for the protection of employer's rights(Srivasthava,2004).

Public sector has been the main focus of attention in most of the general and historic studies. A good analysis of the issues of industrial relations in public sector and have recommended various direct and indirect measures to bring about harmonious relations between the labour and the managements (Karim,1972 and Mathur ,1986).

Analysed whether such state of industrial relations do exist in enterprises as will facilitate the continued fulfilment of its stated objectives and concrete goals. He suggested the basis for determination of and the role of the bargaining agent,

establishment of integrative collective bargaining relationship, development of performance-based reward system as part of action plan for effective industrial relations in the public sector (De,1973).The changing industrial relations in different industries and organizations in Karnataka to determine the nature of changing relations and concluded that labour unions are becoming more defensive and more concerned with protection of jobs. He also found out that workers are positively responding to the demands of the managements for improvement in production, job flexibility and shop floor designing(Patil,1998). The factors that help or obstruct the maintenance and development of cordial and constructive relationship between labour and management in Jammu and Kashmir. He suggested that clear cut policies relating to promotion, reward system, training, working conditions and grievance handling should be formulated and implemented(Gani,1990).

### **3.7 Job satisfaction**

A variety of factors might contribute to job satisfaction for most workers, the connection between such factors and job satisfaction may not be a direct link. Job satisfaction may be mediated by the perception of the individual workers. This is because different employees may perceive the same job differently, and it is those individual perceptions that determine whether or not an employee is satisfied with the job (Gardner& Pierce,1998 and Mathieu, Hofman &Farr ,1993).

The study conducted in Japan by Kumara & Koichi (1989) found that supportive supervision as well as support from co-workers, was positively correlated with worker's job satisfaction. According to them, support from co- workers and supervisors was especially important to employees who did not feel positive about the work they performed. A study comparing the job satisfaction of white collar workers in the United States and India. They found remarkable similarity in the factors that contributed to these workers' job satisfaction(Takalkar & Coover ,1994).Job satisfaction and performance are not directly linked. Instead, effective job performance leads to job related rewards, such as pay increases, promotions or a sense of accomplishment. If the process for offering these rewards is perceived as fair, receiving these rewards leads to job satisfaction and also to higher and higher levels of performance. This creates a situation in which job satisfaction and job performance are actually independent of one another, but are linked because both are affected by job- related rewards (Porter and Lawler,1968).

Job satisfaction might be more strongly related to job performance for individuals in complex jobs, such as managers, scientists and engineers, than in more structured

jobs such as accounting and sales. Complex jobs, because they require creativity and ingenuity, might offer more opportunity for intrinsic reinforcement, and that may strengthen the connection between satisfaction and performance, in comparison to more routine jobs, where satisfaction may be more affected by the structure or conditions of work, or extrinsic rewards (Judge, Thoresen, et al., (2001). Although it is conceivable that a worker could be quite satisfied with a job but have low feelings of commitment to the organization, or vice versa, the feelings tend to be positively related. Studies showed mixed results as to the direction of influence between these two constructs. O'Driscoll and colleagues (1992) found that job satisfaction may directly affect organizational commitment, whereas another study (Becker & Billings, 1993) indicated that organizational commitment leads to job satisfaction. The studies of Mukherjee (1980) and Kathiresan (1987) confirmed the fact that poverty-stricken workers are more concerned with immediate and personal economic gains and their economic condition appear to be a central source of life satisfaction. Srivasthava and Srivasthava (1983) and Narchal et al (1983) found wage pattern, working conditions and job permanency as the most important factors in worker's job satisfaction. Rao and Ganguli (1971) and Chathopadyaya and Venkiteswara (1972) found that job satisfaction is correlated with certain personal attributes and background variables such as age, educational level, number of dependents, occupational level and marital status. The relationship between the industrial relations environment and work culture in a private and a public sector organization belonging to the same industry. She suggested intensive training programmes to be organized for making the employees aware of the need for adoption of normative approach, collaborative orientation, competency building and developing holistic perspective(Mamta Panda,2004)

The effect of welfare facilities on job satisfaction and attitude of workers towards management amongst the workers of public and private sectors. The results indicated that welfare facilities affect the workers' attitude towards management and job satisfaction in both sectors. He concluded that public sector provide better welfare facilities to their workers and public sector workers are more satisfied with their jobs as compared to the private sector workers(Srivastava,2004).

## **CHAPTER 4**

### **SCOPE AND OBJECTIVE OF THE PROJECT**

## **SCOPE & OBJECTIVE OF THE PROJECT**

### **4.1 OBJECTIVE OF THE PROJECT**

- To study the **Impact of Industrial Relation Policies on Satisfaction level of the Employees** in the organization.
- To determine the different **Welfare Measures** provided by the organization.
- To determine the **Working Conditions** inside the organization.
- To determine the **Grievance Handling** procedure in the organization.
- To determine about the present **Standing Orders** of the organization
- To determine the **Employee Involvement & Empowerment**.

### **4.2 SCOPE OF STUDY**

- Industrial relations are the relationships between employees and employers, management and workers, particularly groups of workers represented by a union. Industrial relations are basically the interactions between employers, employees and the government.
- In wider sense, industrial relations include the relationship between an employee and an employer in the course of the running of an industry and may project it to spheres, which may transgress to the areas of quality control, marketing, price fixation and disposition of profits among others.
- Covers industrial relations with its stakeholders, trade union negotiations, settlement of industrial disputes :
- To improve the **welfare measures** in the organization.
- To identify **employee grievances** and redress them efficiently and promptly.
- To improve the **current working conditions** of the employees in the organization.
- To develop and maintain **employee assistance program** in the organization.

**CHAPTER 5**  
**RESEARCH METHODOLOGY**

## 5.1 RESEARCH METHODOLOGY

Research Methodology is a way to systematically solve the research problem. It may be understood as a science problem. It may be understood as a science of studying how research is done scientifically. An effective research strategy is the framework of the research process. This deals with the most suitable methods of investigations, nature of investment, sampling plan and types of data.

## 5.2 HYPOTHESIS

H0: Industrial Relation Policies has no significant relationship with Employee Satisfaction .

H1: Industrial Relation Policies has significant relationship with Employee Satisfaction.

H2: Welfare Measures has significant relationship with Employee Satisfaction.

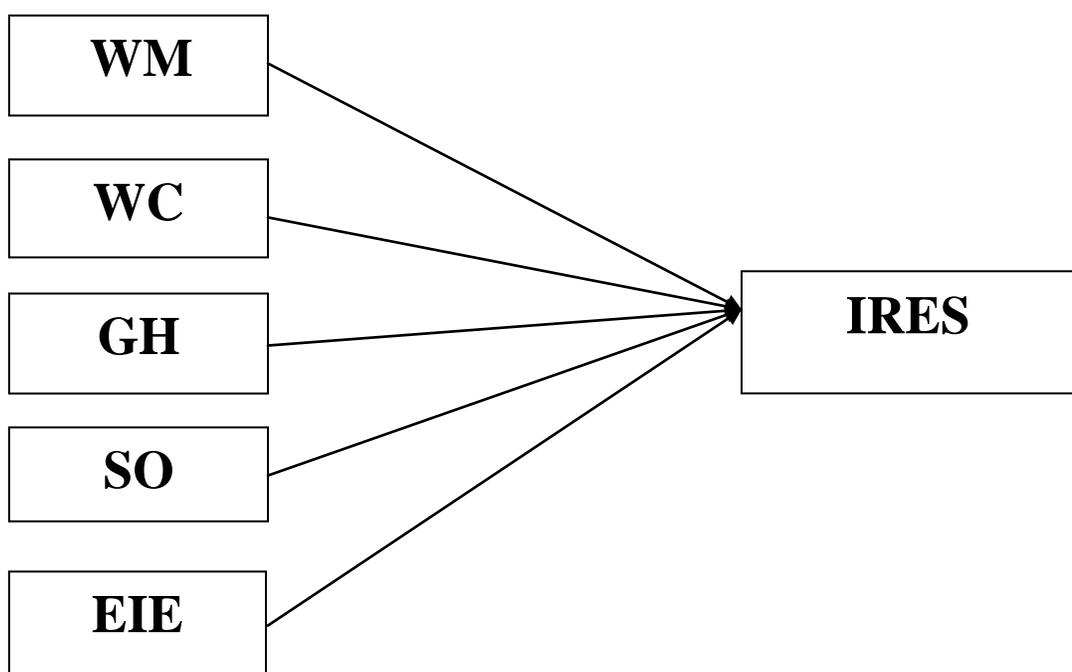
H3: Working Condition has significant relationship with Employee Satisfaction.

H4: Grievance Handling procedure has significant relationship with Employee Satisfaction.

H5: Standing Orders has significant relationship with Employee Satisfaction.

H6: Employee Involvement & Empowerment has significant relationship with Employee Satisfaction.

## 5.3 Hypothesized Model



#### **5.4 RESEARCH DESIGN**

Research design is the arrangement of conditions for the collection and analysis of data for a research study, which will have relevant and scientific approach to the study. The research design is descriptive in nature.

The sample size considered for the study is 150. The sampling technique used is convenient sampling method i.e., based on the availability of the employees the data was collected. Using Questionnaire method answers to a set of preconceived questions were obtained.

#### **5.5 SOURCES OF DATA**

Data is the fundamental element required for any analysis. Both primary and secondary data was collected for the study.

#### **5.6 Primary Data**

Primary data was collected by questionnaires. The questionnaires were structured and consisted of close and open-ended questions related in identifying the roles required for an organizational change.

#### **5.7 Secondary Data**

Secondary data was collected from magazines, books, web-sites and research papers. Further information was obtained through brochures, reports and documents given by the organization.

#### **5.8 LIMITATIONS OF THE STUDY**

Although, the scope of study is vast in nature, but limited persons interviewed on random sampling basis and in some cases, selective persons interviewed as per the requirement.

However, such study is completed within a specified period of time and many points might have been omitted for the scope of study in advertently. Adequate precautions have been adopted to make the study work free from bias and prejudices as far as possible.

**CHAPTER 6**  
**DATA ANALYSIS & INTERPRETATION**

## **DATA ANALYSIS & INTERPRETATION**

### **6.1 Reliability statistics**

It has been found that Cronbach's alpha is 0.960, which indicates strong internal consistency among factors. This means that 96% of the variability in composite score is considered to be internally reliable variance.

The result shows that the alpha value is which suggests the internal validity of the instrument is highly satisfactory.

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .960             | 30         |

### **6.2 Factor Analysis**

Factor analysis of responses was used for data reduction in order to identify correlations among variables in complex sets of data (Mitchel more and Rowley, 2013) used to gauge the industrial relations. Cronbach alpha was found to be 0.960, which was well above the acceptable value of 0.70 for demonstrating internal consistency of the established scale (Nunnally, 1988). Kaiser-Meyer-Olkin ( $KMO > 0.6$ ) and Bartlett's test of sphericity ( $p < 0.05$ ) were used to test empirically whether the data were likely to factor well (Bikker and Thompson, 2006; Kaiser, 1974; Kline, 1994). In this study KMO measure was 0.885 indicating that the data was adequate for factor analysis. Also, Bartlett's test of sphericity (sig. = 0.000) indicated the significance of the study, thereby showing the validity and suitability of the responses collected. Therefore, the statistical test showed that the dimensions of instruments were likely to factor well and the questionnaire was multidimensional.

|  |                    |          |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | .885     |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 3047.244 |
|  | Df                 | 435      |
|  | Sig.               | .000     |

The data gathered from the main survey were analyzed through principal components factor analysis followed by varimax rotation. It basically partitions the total variance of all original variables by finding the first linear combination of variables that accounts for the maximum variance. The communalities represent the total amount of variance an original variable shares with all other variables included in the analysis. The purpose of viewing communalities is to assess whether the variables meet acceptable levels of explanation. 6 out of 30 variables had communalities less than 0.50 indicating they didn't have sufficient explanation and hence were not considered for further analysis. Below table shows the information regarding the remaining variables and their relative explanatory powers. From the table, it is possible to assess the importance of each component and extract the number of factors with eigen values greater than 1. The six factors extracted captures 63.285% of the variance of the 30 items, which can be deemed sufficient in terms of explained total variance. The six extracted factors were named **IRES(Industrial Relation Policies and Employee Satisfaction), WS- Welfare Scheme, WC-Working Conditions, GH-Grievance Handling, SO-Standing Orders, EIE- Employee Involvement & Empowerment.**

| Total Variance Explained |                     |               |              |                                     |               |              |                                   |               |              |
|--------------------------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| Component                | Initial Eigenvalues |               |              | Extraction Sums of Squared Loadings |               |              | Rotation Sums of Squared Loadings |               |              |
|                          | Total               | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % | Total                             | % of Variance | Cumulative % |
| 1                        | 10.034              | 27.119        | 27.119       | 10.034                              | 27.119        | 27.119       | 4.162                             | 11.250        | 11.250       |
| 2                        | 3.599               | 9.727         | 36.847       | 3.599                               | 9.727         | 36.847       | 3.756                             | 10.150        | 21.400       |
| 3                        | 2.867               | 7.748         | 44.595       | 2.867                               | 7.748         | 44.595       | 3.205                             | 8.662         | 30.063       |
| 4                        | 2.070               | 5.595         | 50.190       | 2.070                               | 5.595         | 50.190       | 3.151                             | 8.517         | 38.579       |
| 5                        | 2.011               | 5.435         | 55.625       | 2.011                               | 5.435         | 55.625       | 3.086                             | 8.341         | 46.921       |
| 6                        | 1.490               | 4.028         | 59.653       | 1.490                               | 4.028         | 59.653       | 3.042                             | 8.221         | 55.141       |
| 7                        | 1.344               | 3.632         | 63.285       | 1.344                               | 3.632         | 63.285       | 3.013                             | 8.143         | 63.285       |

Next, varimax rotational method was employed to achieve simpler and theoretically more meaningful factor solutions. This orthogonal rotation tries to maximize the variance of each of the factors in such a way that the total amount of variance accounted for is redistributed over the six extracted factors. Table exhibits the factor loadings of the extracted factors after varimax rotation.

**Communalities**

|       | Initial | Extraction |
|-------|---------|------------|
| IRES1 | 1       | 0.479      |
| IRES2 | 1       | 0.576      |
| IRES3 | 1       | 0.570      |
| IRES4 | 1       | 0.556      |
| IRES5 | 1       | 0.495      |
| WS1   | 1       | 0.545      |
| WS2   | 1       | 0.556      |
| WS3   | 1       | 0.683      |
| WS4   | 1       | 0.748      |
| WS5   | 1       | 0.693      |
| WC1   | 1       | 0.703      |
| WC2   | 1       | 0.749      |
| WC3   | 1       | 0.650      |
| WC4   | 1       | 0.737      |
| WC5   | 1       | 0.801      |
| GH1   | 1       | 0.726      |
| GH2   | 1       | 0.591      |
| GH3   | 1       | 0.631      |
| GH4   | 1       | 0.664      |
| GH5   | 1       | 0.601      |
| SO1   | 1       | 0.571      |
| SO2   | 1       | 0.471      |
| SO3   | 1       | 0.541      |
| SO4   | 1       | 0.518      |
| SO5   | 1       | 0.653      |
| EIE1  | 1       | 0.610      |
| EIE2  | 1       | 0.548      |
| EIE3  | 1       | 0.606      |
| EIE4  | 1       | 0.793      |
| EIE5  | 1       | 0.763      |

Extraction Method: Principal Component Analysis.

**Rotated Component Matrix<sup>a</sup>**

|       | Component |      |      |   |   |   |
|-------|-----------|------|------|---|---|---|
|       | 1         | 2    | 3    | 4 | 5 | 6 |
| IRES1 | .846      |      |      |   |   |   |
| IRES2 | .827      |      |      |   |   |   |
| IRES3 | .793      |      |      |   |   |   |
| IRES4 | .792      |      |      |   |   |   |
| IRES5 | .776      |      |      |   |   |   |
| WS1   |           | .756 |      |   |   |   |
| WS2   |           | .743 |      |   |   |   |
| WS3   |           | .698 |      |   |   |   |
| WS4   |           | .676 |      |   |   |   |
| WS5   |           | .669 |      |   |   |   |
| WC1   |           |      | .849 |   |   |   |
| WC2   |           |      | .824 |   |   |   |

|      |  |  |      |      |      |      |
|------|--|--|------|------|------|------|
| WC3  |  |  | .800 |      |      |      |
| WC4  |  |  | .767 |      |      |      |
| WC5  |  |  | .606 |      |      |      |
| GH1  |  |  |      | .833 |      |      |
| GH2  |  |  |      | .823 |      |      |
| GH3  |  |  |      | .803 |      |      |
| GH4  |  |  |      | .798 |      |      |
| GH5  |  |  |      | .611 |      |      |
| SO1  |  |  |      |      | .725 |      |
| SO2  |  |  |      |      | .644 |      |
| SO3  |  |  |      |      | .643 |      |
| SO4  |  |  |      |      | .630 |      |
| SO5  |  |  |      |      | .610 |      |
| EIE1 |  |  |      |      |      | .752 |
| EIE2 |  |  |      |      |      | .705 |
| EIE3 |  |  |      |      |      | .639 |
| EIE4 |  |  |      |      |      | .633 |
| EIE5 |  |  |      |      |      | .628 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

### 6.3 Regression

A stepwise multiple regression analysis was conducted to determine the “Effectiveness of Industrial Relation Policies & Satisfaction level of Employees at Rourkela Steel Plant”. The five variables as WS,WC,GH,SO,EIE of Industrial Relations Policies were specified as the independent variable with IRES(Industrial Relation Policies and Employee Satisfaction) as the dependent variable. Preliminary analyses were conducted to examine the assumptions underlying a regression model. Test of Durbin-Watson valued to 1.801, as it lies within an acceptable range of 1.5 to 2.5, it was assumed that multi co linearity considerations were met and we could analyze the data using regression.

**WS- Welfare Scheme, WC-Working Conditions, GH-Grievance Handling, SO-Standing Orders, EIE- Employee Involvement & Empowerment.**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|---------------|
| 1     | .565 <sup>a</sup> | .319     | .313              | .60432                     | 1.801         |

The predictor variables WS,WC,GH,SO,EIE of Industrial Relations Policies explained about 81.4% of the variance in the IRES. Table revealed that the F-statistics (56.706) and the corresponding p-value which is highly significant (0.000) or lower than the alpha value of 0.05. This indicates that the slope of the

estimated linear regression model line is not equal to zero confirming that there is linear relationship between IRES and the five predictor variables WS,WC,GH,SO,EIE .

## 6.4 ANOVA

**ANOVA<sup>a</sup>**

| Model        | Sum of Squares | Df  | Mean Square | F      | Sig.              |
|--------------|----------------|-----|-------------|--------|-------------------|
| 1 Regression | 46.352         | 5   | 9.270       | 56.706 | .000 <sup>b</sup> |
| Residual     | 23.541         | 144 | .163        |        |                   |
| Total        | 69.893         | 149 |             |        |                   |

a. Dependent Variable: IRESFACT

b. Predictors: (Constant), EIEFACT, GHFACT, SOFACT, WCFACT, WSFACT

In table , the largest beta coefficient value is of flexibility, thus denoting that it makes the strongest significant contribution in explaining the development of business when the variance explained by all other predictor variables in the model is controlled. The beta coefficient value for responsiveness is the smallest indicating that it made the least contribution.

## 6.5 Coefficients

**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
|       |            | B                           | Std. Error | Beta                      |       |      |
| 1     | (Constant) | .659                        | .253       |                           | 2.601 | .010 |
|       | WSFACT     | .088                        | .030       | .117                      | 2.987 | .003 |
|       | WCFACT     | .184                        | .061       | .141                      | 3.036 | .003 |
|       | GHFACT     | .199                        | .031       | .262                      | 6.473 | .000 |
|       | SOFACT     | .215                        | .057       | .158                      | 3.756 | .000 |
|       | EIEFACT    | .152                        | .051       | .144                      | 2.984 | .003 |

a. Dependent Variable: IRESFACT

Here ,WSFACT-Welfare Scheme ,WCFACT-Working Conditions, GHFACT-Grievance Handling, SOFACT-Standing Orders, EIEFACT- Employee Involvement & Empowerment.

Therefore the estimated model is as below:

$$\text{IRES} = .659 + (.088)(\text{WSFACT}) + (.184)(\text{WCFACT}) + (.199)(\text{GHFACT}) + (.215)(\text{SOFACT}) + (.152)(\text{EIEFACT}).$$

**CHAPTER 7**  
**FINDINGS & SUGGESTIONS**

## **7.1 Finding of the Study**

It has been found that Cronbach's alpha is 0.960.

Preliminary analyses were conducted to examine the assumptions underlying a regression model. Test of Durbin-Watson valued to 1.788, as it lies within an acceptable range of 1.5 to 2.5, it was assumed that multi co linearity considerations were met and we could analyze the data using regression.

The predictor variables WS,WC,GH,SO,EIE of Industrial Relations Policies explained about 81.4% of the variance in the IRES.

F-statistics (56.706) and the corresponding p-value which is highly significant (0.000) or lower than the alpha value of 0.05. This indicates that the slope of the estimated linear regression model line is not equal to zero confirming that there is linear relationship between IRES and the five predictor variables WS,WC,GH,SO,EIE .

All the 5 independent factors are accepted and hence it can be said that the employees of Rourkela Steel plant are satisfied with Industrial Relation Policies.

## **7.2 Suggestion and Recommendations**

Both management and unions should develop constructive attitudes towards each other .

All basic policies and procedures relating to Industrial Relation should be clear to everybody in the organization and to the union leader. The personnel manager must make certain that line people will understand and agree with these policies.

The personnel manager should remove any distrust by convincing the union of the company's integrity and his own sincerity and honesty. Suspicious, rumours and doubts should all be put to rest.

The personnel manager should not vie with the union to gain workers' loyal to both the organization. Several research studies also confirm the idea of dual allegiance. There is strong evidence to discard the belief that one can owe allegiance to one group only.

Management should encourage right kind of union leadership. While it is not for the management to interfere with union activities, or choose the union leadership, its action and attitude will go a long way towards developing the

right kind of union leadership. "Management gets the union it deserves" is not just an empty phrase.

Some awareness programmes should be arranged so as to avoid the ignorance of illiterate workers.

Both the management and workers should shoulder their responsibilities properly in order to minimize burden over a few mass.

The grievances of workers should be taken into consideration individually to free them from mental anguish and allow them to work without any hesitation.

Workers should be given chances to show their creativity and talent before management and must be rewarded for that.

The union for their interest workers often shows that the management is superior and there is a large gap between them so this type of wrong notion should be confirmed to them.

The management should give fair and prompt decision to the workers so that they don't favour to knock the doors of court of law.

The workers must also be co-operative to their management and help them in achieving the profit of the company.

**CHAPTER 8**  
**CONCLUSION**

## CONCLUSION

The organization has adopted a better kind of welfare activities which create an effective working environment and thus better productivity. There is different kind of welfare schemes like medical allowance; death relief fund, insurance, housing and transportation facilities, recreation club etc. are provided by the company to the employees to maintain the industrial relation better one .The premises and the departments are maintained healthy. Also proper safety measures have been adopted in the organization. All matters relating to safety, health and welfare of employees are properly implemented. A better relationship between the employees, trade union and the management has been followed which helps to reduce the problems in the organization and also helps to increase the productivity. It is evident that good industrial relations is the basis of higher production with minimum cost and higher profits. It also results in increased efficiency of workers. Good industrial relations reduce the industrial disputes. Industrial relations has become one of the most delicate and complex problems of modern industrial society. Industrial progress is impossible without cooperation of labors and harmonious relationships. Therefore, it is in the interest of all to create and maintain good relations between employees (labor) and employers (management).Thus industrial relation measures followed should be given prime emphasis which may lead to an effective relationship between management and employees. An effective industrial relation results in the increase of the productivity of the organization. Better relationship between the employee and employer is very essential for successful running of any organization. Favorable relationship can avoid many adverse situations. With a huge manpower, Rourkela Steel Plant has taken every step to maintain a cordial relation. It has given a thrust on participation of employees through many forums - both traditional and revolutionary. Structured Communication as an important vehicle for carrying the employees and management together has been adopted nicely by RSP to facilitate the flow of information, ensure employees commitment and involvement in all critical aspects of the operation. Of course there are many scopes for improvement. Both management and recognized union should come forward to restore the relationship of trust. The Joint for a need to be more effective. The management also needs to be more committed to implement the plans more properly.



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## Questionnaire

| Primary | Industrial Relation Operations and employee satisfaction | Strongly Disagree | Disagree | Undecided | Agree    | Strongly agree |
|---------|--|-------------------|----------|-----------|----------|----------------|
|         | <b>Question</b>  | <b>1</b>          | <b>2</b> | <b>3</b>  | <b>4</b> | <b>5</b>       |
| IRES1   | Industrial Relation operations are effective.            |                   |          |           |          |                |
| IRES2   | Policies are satisfactory.                               |                   |          |           |          |                |
| IRES3   | management –employee relations is healthy.               |                   |          |           |          |                |
| IRES4   | Communication with top management is easy.               |                   |          |           |          |                |
| IRES5   | Satisfied with the demand and conflict management.       |                   |          |           |          |                |

| Secondary | welfare schemes                                   | Strongly Disagree | Disagree | Undecided | Agree    | Strongly agree |
|-----------|---|-------------------|----------|-----------|----------|----------------|
|           | <b>Question</b>                                   | <b>1</b>          | <b>2</b> | <b>3</b>  | <b>4</b> | <b>5</b>       |
| WS1       | All necessary facilities are provided.            |                   |          |           |          |                |
| WS2       | All facilities are maintained in a regular basis. |                   |          |           |          |                |
| WS3       | Schemes benefiting to family is provided.         |                   |          |           |          |                |
| WS4       | Transport facility is                             |                   |          |           |          |                |

|     |                                   |  |  |  |  |  |
|-----|-----------------------------------|--|--|--|--|--|
|     | mobile.                           |  |  |  |  |  |
| WS5 | Ambulance and emergency facility. |  |  |  |  |  |

| Secondary | working conditions                           | Strongly Disagree | Disagree | Undecided | Agree | Strongly agree |
|-----------|--|-------------------|----------|-----------|-------|----------------|
|           | Question                                     | 1                 | 2        | 3         | 4     | 5              |
| WC1       | Cleanliness of working condition .           |                   |          |           |       |                |
| WC2       | Comfortable Level.                           |                   |          |           |       |                |
| WC3       | Condition of equipments.                     |                   |          |           |       |                |
| WC4       | Sitting and other amenities condition.       |                   |          |           |       |                |
| WC5       | Overall satisfaction level of working place. |                   |          |           |       |                |

| Secondary | grievance handling                | Strongly Disagree | Disagree | Undecided | Agree | Strongly agree |
|-----------|-----------------------------------|-------------------|----------|-----------|-------|----------------|
|           | Question                          | 1                 | 2        | 3         | 4     | 5              |
| GH1       | Counsellor duties performed.      |                   |          |           |       |                |
| GH2       | Satisfaction level of grievances. |                   |          |           |       |                |
| GH3       | Timely payment.                   |                   |          |           |       |                |
| GH4       | Performance allowances paid.      |                   |          |           |       |                |

|                  |  |                   |          |           |       |                |
|------------------|--|-------------------|----------|-----------|-------|----------------|
| GH5              | Management understand requirements better and make timely changes. |                   |          |           |       |                |
| <b>Secondary</b> | <b>standing orders</b>   | Strongly Disagree | Disagree | Undecided | Agree | Strongly agree |
|                  | Question   | 1                 | 2        | 3         | 4     | 5              |
| SO1              | As per the govt and industrial rule and regulation.                |                   |          |           |       |                |
| SO2              | All norms and policies are implemented.                            |                   |          |           |       |                |
| SO3              | All benefits mentioned are provided timely.                        |                   |          |           |       |                |
| SO4              | Wages and bonus and leaves are provided as per the SO.             |                   |          |           |       |                |
| SO5              | Contract and regular employees concerns are addressed.             |                   |          |           |       |                |
| <b>Secondary</b> | <b>employee involvement &amp; empowerment.</b>                     | Strongly Disagree | Disagree | Undecided | Agree | Strongly agree |
|                  | Question   | 1                 | 2        | 3         | 4     | 5              |
| EIE1             | Employees role in decision making process.                         |                   |          |           |       |                |
| EIE2             | Employees involvement in meeting.                                  |                   |          |           |       |                |
| EIE3             | Employee recognition.  |                   |          |           |       |                |

|      |                                   |  |  |  |  |  |
|------|-----------------------------------|--|--|--|--|--|
| EIE4 | Employees training & development. |  |  |  |  |  |
| EIE5 | Employee reward and promotion.    |  |  |  |  |  |