Human factor helps in Increasing the effect of Total Quality Management (TQM) on Industry.

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Abstract:

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I.   INTRODUCTION

• Total Quality Management is defined as a customer-oriented process and aims for continuous improvement of business operations. It ensures that all allied works (particularly work of employees) are toward the common goals of improving product quality or service quality, as well as enhancing the production process or process of rendering of services. However, the emphasis is put on fact-based decision making, with the use of performance metrics to monitor progress[1].

• TQM (Total Quality Management): TQM's key concept is that the quality of a product or service is the responsibility of everyone involved in its creation or consumption, including management, employees, suppliers and customers. TQM's ultimate goal is to improve customer satisfaction. [2].

• The definition of Total quality Management (TQM): Total quality management (TQM) consists of organization-wide efforts to "install and make permanent climate where employees continuously improve their ability to provide on demand products and services that customers will find of particular value." [3]

Now from some days, There are some companies which are trying so hard and with maximum effort for satisfy their customer's requirements. But they have to possibly exceed quality and also to touch a high quality. This can only be achieved by improving the product work efficiency, cost minimization, customer satisfaction and also to reach at high class and standard organizations.

 On the basis of principles of management, total quality management has a interesting philosophical background. Total quality management consists of full company or industry efforts to install and make a perfect environment where employees of all category always improve and enhance their ability of doing work so, they can provide demanded work efficiency on manufactured products or services that customer is needed and find valuable as per their requirements.

The philosophy of TQM is to involve every employee in the organisation along with its suppliers and distributors to improve products quality and enhance customer satisfaction.

Employee involvement is a system where in employees are encouraged to use their expertise and knowledge to suggest methods for improvements in their work areas. These suggestions leads to improvements in the job, the product, the work atmosphere or the company as a whole.

II.   LITERATURE REVIEW

Total quality management includes training of the employees of every level which results in, increasing quality of product, decrease production time, and also increase efficiency of the employees. There are five points which focused on training:

1.   Appropriate competitive position: in every business and organisation competition is increasing. So, new methods or techniques are find and train new methods. So one can be in competition always.

2.   Adaption to changing market conditions: The continuous changing of the trending of the market is big reason to stay updated and modified everyday. Work on forecasting, modification of the product and changing in market strategy is necessary for all type of market.

3.   Reduce cost and enhance better cost management: The main aim of systematized production are reducing the overall cost of product with moving in planned time by maintaining customer's required standard guidelines. Quality management training is required for this purpose.

4. High profitability: profit making is the only purpose of all organisation, profit making is the art, which not common to every organization which wants to create profit. To achieve a gross profit, total quality management is necessarily implemented.

5. Improved customer focus and satisfaction: by giving quality management training to the employees and train them to work in customer satisfaction and also complete customer's demand. From Quality management training one can get knowledge of steps of enhancing customer focus and satisfaction.

Total Quality Management (TQM) helps in improving employees and supervisors knowledge and view on working strategy and also improve methods of production so they produce more product and increase their productivity for customer's satisfaction. Many factors are responsible for knowledge gaining process. They are education, age, department, pressure under they work, danger and many more.

Different educational level differ the person to think on a particular problem, or skipping work or not interesting in take training program. Lower educated people work only in labour class, take orders and work on some mechanic or labour manner, then next medium educated persons which take diploma or ITI degree they tale order from supervisors and also have ability to make changes or solve some problems. Next higher educated level person/ employee which are graduated they study higher degree which are useful for the organisation they design product, make plans of working and also solve problems which come during production or created by the employees.

Leadership of Top management and employee's working capacity are necessarily important principles of total quality management (TQM), these two belongs to improve relationship between organisation and customer by customer satisfaction process. Because of above reason, top management's leadership and employee empowerment strategies are consider as important factor and focus to improve the method and practices all improve method. Some studies were done this assumption. This research study performed on organizations those adopted TQM to find the relationship between top management leadership, employee's empowerment, job satisfaction, and customers' satisfaction. On seeing the results the conclusion is found positive between top management leadership, employee empowerment, job satisfaction, and customer satisfaction. Management's leadership are give right command to employees, and here Employee empowerment are work and employees were produced quality product achieve goal of customer satisfaction and also job satisfaction.

"Total" highlight that sectors or subdivisions which combines together to form a production sector or organization (Example: marketing, accounting, finance, design, sales, designing, casting). They are required necessarily to enhance their natural techniques to take them on high levels.

"Management" emphasizes that controlling executives or person of high command are strictly have to manage and improve the quality with limited employees, knowledge, low grade workers to achieve the vision or objective of the organization. The concept of Total Quality Management, was widely transformed through the previous experience of high-quality products from Japanese manufactures.

Therefore, some persons take total Quality Management as the result of a long time developed method or technique or philosophy which are practised from last few decades go back to Frederick Taylor's efforts in the1920s to evaluate and improve the quality of manufactured products. Followed by Taylor's efforts, the to come great improvement turn up with the establishment of the statistical quality control procedures.

Advantages
- Increase in productivity.
- Improving in market image.
- Decrease in defects and waste production.
- Increase in profitability.
- Enhancement in customer focus and satisfaction.
- Enhancement in customer loyalty.
- Improvement in employee rules and equality.
- Increase in shareholder and stakeholder worth.
- Strong in competitors.
- Improved and innovative methods.

III. METHODOLOGY

TQM , Total Quality Management helps organisation to become profitable and also to prove themselves on the customer's satisfaction and demand. TQM helps in human resource of the organisation through leadership, task completing, training the employees, etc. This quality of working on a firm as a profitable worker are depend on some factors like education, knowledge, age etc. Survey is performed on a large and integrated Steel industry on Bhilai Chhattisgarh. Total 500 persons are respondent and involve in this process. They are workers/ general employees and some supervisors. Responds are taken on different level.

Following points are taken from 500 responders to make general view of the industry. Then for some specific points related to leaders / supervisors 50 responders are taken. They are:
1. educational level
2. working department
3. job title
4. age group

some detail of the industry:
- Name of Organisation: Steel Plant, Bhilai, Chhattisgarh.
- Number of Employees: 17960+
- Number of Employees satisfied in their Job: 99%
- Number of employees not satisfied with their job: 1%
- Customer Satisfied: 100%
- Healthy work Environment: 95%
- Percentage of Work Stress on employees: 5% - 30%
- Advantages with their job: Education at low cost, free medical treatment for employees and their family, Accommodations at lowest rent, etc. healthy Environment localities.

Table 1: respondent's educational level.

Education	Number of person	Percentage (%)
ITI	214	42.8
Diploma	159	31.8
BTech	127	25.8

Table 2: respondent's working department.

Department	Number of person	Percentage(%)
Product manufacturing	50	10
Steel melting shop	50	10
Continuous casting shop	50	10
Training department	50	10
Mills	50	10
Raw material division	50	10
Material management	50	10
Personnel administration	50	10
Project	50	10
Marketing and customer satisfaction	50	10

Table 3: respondent's job title

levels	Number of persons	Percentage (%)
General Employees	200	40
Engineering Employees	240	48
Deputy General Managers	40	8
General Managers	20	4

Table 4: respondent's age group

Age group	Number of persons	Percentage(%)
18-25	32	6.4
25-35	83	16.6
35-45	262	52.4
45-55	118	23.6
55-60	5	1

Table 5: Human Factors which effect work of Employees.

Respondent =50.

	Factors	Frequency	Percentage(%)
1	Behaviour of Leader		
A	Having creative ideas, decision making	38	76
B	Take challenges, patience capacity	35	70
C	Loyalty	45	90
2	Public responsibility		
A	Take responsibility of negative impact of work	43	86
B	Giving solution, goal/ topic oriented, empathetic behaviour	50	100
C	Doing group discussion, taking others ideas	41	82
3	Training		
A	Gaining knowledge and better relationships	50	100
B	Increase self confidence and self awareness	39	78
C	Training in class room	25	50
D	Training with tools and gadgets at workspace	50	100
4	Organisational structure for supporting TQM		
A	Giving clear commands for employees	46	92
B	Giving freedom to employees	41	82
C	Effective communication and convenience	50	100
5	Obstacles in communication		
A	Explaining daily operation/ work/ target	43	86
B	Using tool for communication	50	100
6	Appreciating		
A	Giving promotions or increasing time to time salaries	35	70
B	Appreciating by giving credits/ gifts or extra rewards	42	84
7	Taking measurements and evaluating problems		
A	Ignore problems and remaining the solutions	0	0
B	Decrease in ideas or preparation for problems	3	6
C	Sufficient and required measurements and done in proper time	50	100

Result:

• From table 1 it is clear that 42.8% workers are done ITI, 31.8% workers done Diploma and 25.8% done BTech which are most qualified employees for industry.

• In table 2 employee's different department is shown.

• In table 3 respondents job category is shown.

• In table 4 different age group of employee is shown which help to know the age of workers.

• In table 5 50 responders are taken were the employees are educated and they are leaders and supervisors and employee which understand the factors of TQM. On there observation this table is prepared:

• Overall the leaders have good capability to manage there workers by taken orders from the main supervisors, taken challenges, create good ideas and don't let the problem as it is.

• These abilities are necessary for good leaders which take all responsibilities to run industry in good way by applying TQM to taken there industry in Top class level.

IV. CONCLUSION

From company details, it is observed that any industry have to provide some benefits to employees to work for there like schools for there children in lowest cost, health facilities for there employees at free, give a green and clean environment to their family and give a good locality.

• From above calculations and with data given by employees most of the people thinks total customer satisfaction is best implemented on organisation and employees involvement is not so good applied. Managers

and leader order them and they have to follow. Here so many people are completed ITI and get their job, and they completed 25- 30 years.

• They have experience and knowledge, they do their job since so many years but on the other hand New graduated BTech become come by examination and they have no experience they become managers and deputy managers. New comers btech graduates have to learn job first then they make plans to do their job and also they have knowledge of industrial engineering / production engineering.

• They studied about TQM and have knowledge of applying TQM.so new comers learn and take trainings of their job and apply TQM very efficiently and there old workers who doesn't study about industrial and production engineering they shouldn't imply the TQM factors very efficiently. But company follows the TQM factors which are rule and have guidelines from various certifications like ISO 9001. So all person of all departments are collaborate with each other and practice their work efficiently.

FUTURE SCOPE

• Use this data for comparing the employees of other large scale or small industry on the basis of education, age, department, level of work, etc.

• Add another/ various comparing elements of employees to known working capacity, decision making level and the promotion increment, behaviour of all employees.

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