

Perception of Employees on Various Aspects for Escalating Industrial Productivity - A Case Study

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Abstract

In the present age of cut-throat competition, it becomes highly necessary for an organization to be dynamic in the globalization era. This is possible only when the employees, employers and organizations are capable enough to cope up with the changing world scenario. In the rapidly changing environment 'human being' is the most important and valuable resource to play vital role in every organization has in the form of its employees. The case was considered to know the employees' perception about motivational and morale aspects which ultimately help to improve industrial productivity. Statistical analysis gives very useful insights of the study for employers to consider for better performance of the organization. It is concluded that respondents are divided about the various aspects of productivity improvement - means and measures considered in this analysis. Overall perception is positive and they believe that the aspects considered, are going to help improving productivity.

Index Terms - Competition, employee, employer globalization, organizations, perception, and productivity

1. Introduction

The objective of the motivation is to create conducive environment in which people are willing to work and happy working with zeal, initiative and belongingness with enhanced self-esteem and satisfaction, with sense of responsibility, loyalty and discipline and with the pride and confidence in a most

coherent manner so that the goals of an organization are achieved efficiently and effectively. The morale is synthesis of an employee's diverse reactions to and feeling for his job satisfaction. Feelings, emotions, sentiments, attitudes and motives-all these combine and lead to a particular type of behaviour on the part of an individual or group referred to as employees' morale [1-6].

2. The Case

The present case study was conducted in an industry of the estate at Vitthal Udyognagar in Anand district of Gujarat, India. The estate was established some times in 1965. At present 1000 odd units are functioning and about 25000 employments are generated. The paint making company was selected for this study. A structured questionnaire was used to know the perceptions of the employees. Questionnaires were distributed to know the present status of the industrial scenario. SPSS Software was used to carry out various statistical analysis to uncover the factor responsible for the health of the estate in general and industries in particular.

3. Objectives of the Study

The primary objective is to study the effects of employees' motivation, morale and job satisfaction in a public limited company at Vitthal Udyognagar in Anand district of Gujarat state, India and various aspects leading to higher productivity. The specific objectives of this research are:

- To assess employee's perception about motivation, morale, Job satisfaction.
- To suggest the areas of improvement leading to higher industrial productivity

4. Scope of the study

The research carried out in XYZ Company at Vitthal Udyognagar, the outcomes may not be applicable to other units of the XYZ Paints Company elsewhere or to the other companies. The survey was carried out for the lower, middle and top levels employees, but views may differ from level to level. The researcher aims at assessing the employees' perception for motivation, morale, and job satisfaction of the organization considered for the research study. The same is extended for further study and /or in other industries.

5. Limitations of the study

The research work was carried out successfully and desired results were on hand at the end of the research. There were certain limitations pertaining to research study conducted in the organization. The problems and limitations during this research study were listed as under:

- Non-availability of some secondary data / past data records.
- Responses with reservation caused limited co-operation from employees. Top, middle, and lower levels employees responded differently and might have added little or more bias.
- The postponements of the responses were time consuming and tiresome due to busy schedule or unwillingness to disclose certain information by the respondents.
- The investigator was thought to be industry - agent or government authority in spite of avowal was given, so extracting information was difficult initially.
- The time factors, poor awareness of some respondents were other limitations.
- The supervisors and technicians were scared about the disclosing problems facing at workplace.
- Lower education, language problem and lack of freedom to disclose the facts were major constraints to the most of the bottom level employees.

6. Research Methodologies

The exploratory type research was conducted. This type of research allowed exploring a new area and so the data related to the study had to be collected from the respondents within the organization. The results of an exploratory research provided significant insight into a given situation. The main activity of the company is manufacturing water based paints, enamel paints, protective coatings and synthetic resins. Presently, the company under study has employed 5 Managers, 7 Executives, 29 Officers, 42 Technical staff and 126 Workers, thus 209 persons are on roll.

7. The Instrument

The research is based on the primary data. A structured questionnaire was used for the purpose of research. The questionnaire consisting of 15 questions were designed keeping in mind the population characteristics. A five point Likert type scale from strongly agree (5), Agree (4), Neutral (3), disagree (2) and strongly disagree (1) was used. The total 128 questionnaires were distributed among the employees of the organization. The questionnaires were checked for incompleteness, inconsistent, and ambiguous responses. The questionnaires were discarded with unsatisfactory responses; these questionnaires were not included in the sample. Finally 66 questionnaires found usable for analysis and have resulted in the sample size. The responses were $66/128=51.56$ percent, which are considered acceptable for the research study [1-6].

8. Statistical Analyses

SPSS software was used to carry out statistical analyses to evaluate the various aspects which are influencing industrial productivity. Frequency distribution was carried out to know the demographic details. In research survey, there may be a large number of variables, most of which are correlated and which must be reduced to a manageable level. Relationships among sets of many interrelated variables are examined and represented in terms of a few underlying interpretable factors. The question wise analysis and overall analysis of all the 15 statements gives the overview as shown in table1 and figure1 show that 42.53% respondents are strongly agree + 31.62% of respondents agree, of total respondents strongly disagree to the statements of this analysis. Hence, it is concluded that responses are divided.

Table 1 - Question wise Analysis

Sr. No.	Statement	(5)	(4)	(3)	(2)	(1)	Total
1	Employees feel proud to be associated with this organization.	53	13	0	0	0	66
2	Employees feel that their job is secured.	48	07	11	0	0	66
3	Employees are satisfied with past and present rewards.	16	2	21	21	6	66
4	Employees get enough co-operations from the supervisors and managers	15	24	13	14	0	66
5	Employees are not involved in decision making process.	2	23	6	18	17	66
6	Employee is satisfied with working conditions in own department	17	29	3	15	2	66
7	Employee is aware about housekeeping needs in their workplace.	33	31	1	1	0	66
8	Employee thinks that housekeeping is a moral responsibility.	41	24	1	0	0	66
9	Employee thinks that team work is prevailing in the department.	16	29	14	6	1	66
10	Employee thinks that training is necessary.	34	32	0	0	0	66
11	Employee thinks that job rotation is necessary.	29	30	7	0	0	66
12	Employees think that productivity should be increased.	45	20	1	0	0	66
13	Employees are satisfied with management policies and rules.	13	16	15	20	2	66
14	Employee is satisfied with organizational culture.	12	14	17	21	2	66
15	Training and Development programme arranged in organization which helps employees' productivity.	47	19	0	0	0	66
	Total Responses	421	313	110	116	30	990
	Overall Percentage	42.53	31.62	11.11	11.72	3.03	100.00

Table 2 Overall Analyses

Sr. no.	Details	Strongly agree	Agree	Not sure	Disagree	Strongly disagree	Total
		(5)	(4)	(3)	(2)	(1)	
1	Responses	421	313	110	116	30	990
2	Percentage	42.53	31.62	11.11	11.72	3.03	100.00

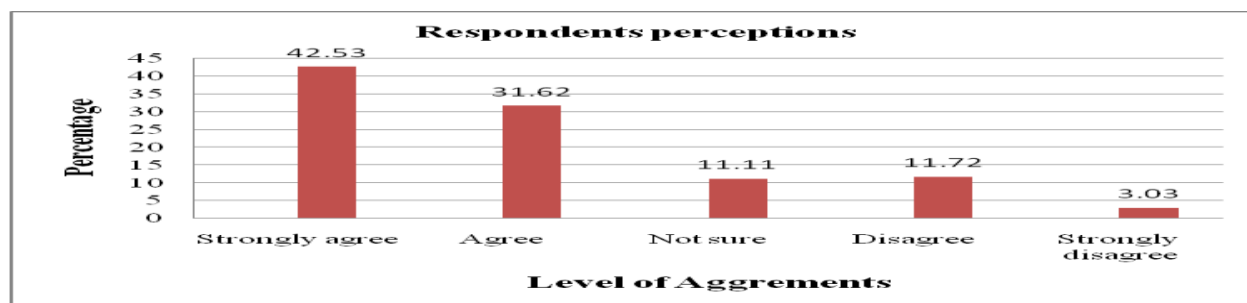


Figure 1 Overall Analysis

Hence, it is concluded that respondents are divided about the various aspects of productivity improvement

means and measures considered in this analysis. Even though majority respondents are in favour with positive response: $42.53\% + 31.62\% = 74.15\%$

An Index of Reliability: An effective tool for measuring reliability is Cronbach's alpha, which is a numerical coefficient of reliability. Alpha coefficient ranges in value from 0 to 1 and may be used to describe the reliability of factors extracted from dichotomous (that is, questions with two possible answers) and/or multi-point formatted questionnaires or scales (i.e., rating scale: 1 = poor, 5 = excellent). The higher the score, the more reliable the generated scale, alpha value 0.7 to be an acceptable reliability coefficient but lower thresholds are sometimes used in the literature. If the scale shows poor reliability, then individual items within the scale must be re-examined and modified or completely changed as needed. Here, the value of cronbach's alpha = 0.784 indicates acceptable reliability [20].

Table 3 Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.784	0.820	15

Table 4 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.761
Bartlett's Test of Sphericity	Approx. Chi-Square	803.717
	df	105
	Sig.	0.000

KMO value is more than 0.60, hence, can be carried out factor analysis for good interpretation. The factor analysis is appropriate for data reduction in this case and the value of significance is less than 0.05, shows that variable are uncorrelated in nature. The null hypothesis is rejected.

Table 5: The values of communalities are more than 0.50, except for variable number 3. Otherwise, it is considered as good explanation of variable reduced most widely used interdependency techniques for data reduction is factor analysis [1-6]

Factor analysis allows us to look at groups of variables that tend to be correlated to each other and identify underlying dimension that explain the correlations. Relationships among sets of many interrelated variables are examined and represented in The numbers of factors are three when eigenvalue is one or more, all together explained 71.654 percent. The scree plot also confirms that there are three factors explain 15 variables in to three factors up to 71.654 percent. The data reduction in to three factors and they are interpretable.

Table 5 Communalities

Variable	Initial	Extracted	Factor Loadings
1	1.00	0.86	0.896
2	1.00	0.84	0.763
3	1.00	<u>0.46</u>	0.617
4	1.00	0.73	0.831
5	1.00	0.69	-0.702
6	1.00	0.85	0.920
7	1.00	0.55	0.730
8	1.00	0.56	0.727
9	1.00	0.75	0.856
10	1.00	0.73	0.839
11	1.00	0.66	0.670
12	1.00	0.80	0.880
13	1.00	0.88	0.863
14	1.00	0.87	0.871
15	1.00	0.53	0.702

Extraction Method: Principal Component Analysis.

The values of communalities are more than 0.50, except for variable number 3, but very near to 0.50. Otherwise, it is considered as good explanation of variable reduced to factors. The absolute factor loadings are more than 0.60 and all variables included in the analysis and they are contributing in increasing 1 productivity.

Table 6 Total Variance Explained

Factor	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.197	41.311	41.311	6.197	41.311	41.311	5.086	33.905	33.905
2	3.253	21.688	63.000	3.253	21.688	63.000	3.670	24.467	58.372
3	1.298	8.655	71.654	1.298	8.655	71.654	1.992	13.282	71.654
4	0.996	6.637	78.291						
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓

Table 7 Groupings of the variables and their corresponding factor loadings.

Variables	Statements	Factors		
		1	2	3
06	You are satisfied working conditions in your department	0.920		
14	You are satisfied with organizational culture	0.871		
13	You are satisfied with management polices and rules	0.863		
09	You think that teamwork is prevailing in your department	0.856		
04	You get enough cooperation from your supervisors/managers	0.831		
05	You are not involved in decision making process	-0.702		
03	You are satisfied with past and present rewards	0.617		
12	You think that productivity should be increased		0.880	
10	You think that training is necessary		0.839	
07	You are fully aware about housekeeping needs in your workplace		0.730	
08	You think that housekeeping is moral responsibility of employee		0.727	
15	You think that T&D arranged in the organization helps employees' productivity.		0.702	
11	You think that job rotation is necessary		0.670	
01	You feel proud to be associated with this organization(Feel good)			0.896
02	You feel that job is secured in the organization(Job Security)			0.763

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 5 iterations.

Table 6 shows that total 15 variables are reducible to three factors, which explain total variance up to 71.654 percent. The scree plot also confirmed total 15 variables can be reduced to three factors that are interpretable.

Table7 Shows the groping of variables as per factors. All 15 factors are included and associated with three factors.

Table 8 Naming factors and associated variables with factors

Factor	Factor Description	Variables associated with Factors
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1	Job Satisfaction	Working condition, work culture, policy and rules, Team work, Cooperation, involvement, rewards.
2	Productivity Tools	Productivity, Training, housekeeping, responsibility, employees' productivity.
3	Job security	Feel proud and job security

Table 9 Component Transformation Matrix

Factor	Factors	1	2	3
1	Job Satisfaction	0.858	0.425	0.288
2	Productivity Tools	-0.303	0.872	-0.384
3	Job security	-0.414	0.243	0.877

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax- Kaiser Normalization.

Table9: The component Transformation matrix shows that the three factors' loading are ≥ 0.858 shows that model fit is good and three factors are good representatives of 15 variables have explained correctly.

9 Conclusions

The study mainly focused to uncover factors which help increasing industrial productivity. Three factors uncover the associations of the 15 attributes. These factors contribute to higher productivity of the organization. Job security, Job rotation, Job satisfaction, Job Training, Housekeeping, Working conditions, Recognition, Involvements and Empowerments are all important aspects for higher productivity to satisfy the human wants and satisfaction by increasing industrial productivity by raising living standard of the people.

References

- [1] Goel, Bharat and Dewan, Bhushan (2011). Factors affecting consumer preferences of shopping at organized retail stores in Punjab' Journal of Engineering, Science and Management Education, NITTTR, Bhopal, pp 44-49.
- [2] Jani, H. J., (2004). Ph.D. Thesis, Quality Management in Indian Companies through ISO 9000, Sardar Patel University. Vallabh Vidyanagar.
- [3] Malhotra Naresh K., (2009). Marketing Research- an Applied Orientation, fifth edition, Pearson, New Delhi.
- [4] Nargundkar Rajendra (2005). Marketing Research- Text and Cases, Tata McGraw-Hill Pub., New Delhi.
- [5] Pandya, K. J. (2010). Ph.D.Thesis, Consumer Behaviour in Two Wheeler Industry: A case study of Motorcycle users in the state of Gujarat, Sardar Patel University, Vallabh Vidyanagar.
- [6] Pankhania, T.B., (2011). Ph.D. Thesis, Industrial productivity scenario and potentiality. In Vitthal Udyognagar in Anand district of Gujarat, India, Sardar Patel University, Vallabh VidyanagarAnand, Gujarat, India. (Unpublished).
- [7] Pankhania, T. B., Modi, V. K., (2011), Factors Affecting Job Satisfaction: A Case Study-A Survey Conducted in Industries at Vitthal Udyognagar of Anand district of Gujarat State, International Conference on Industrial Engineering-2011, Sardar Vallabhbhai National Institute of Technology, Surat, India, 17-19 November 2011.
- [8] Pankhania, T. B., Modi, V. K. (2011), Quality Introspects and Productivity: A Survey Conducted at Vitthal Udyognagar in Anand district of Gujarat, India, International Conference on Industrial Engineering-2011, Sardar Vallabhbhai National Institute of Technology, and Surat, India, 17-19 November 2011..
- [9] Pankhania, T. B., Modi, V. K. (2011), The role of infrastructure in the perception of industrial productivity - An empirical study, International Conference on industrial engineering-2011, Sardar Vallabhbhai National Institute of technology, Surat, India, 17-19 November 2011.
- [10] Pankhania, T. B., Modi, V. K., (2011), Kaizen improves Quality and Productivity: A case study, International conference on industrial engineering, Sardar vallabhbhai national institute of technology, Surat, India, 17-19 November 2011.
- [11] Pankhania, T. B., Modi, V. K., (2011), The Factors influencing Target Market criteria: A survey conducted in industries at Vitthal Udyognagar, in Anand District of Gujarat State, India, 'International Journal of Industrial Engineering & Production Research, September 2011, Volume 22, Number3, pp.213-220.
- [12] Pankhania, T. B., Modi, V. K., (2011), Impacts of Job Satisfaction on Productivity- A survey Conducted in Industries at Vitthal Udyognagar in Anand District of Gujarat State, India,' International Journal of Industrial Engineering & Production Research (Unpublished).

- [13] Pankhania, T. B., Modi, V. K. (2011). The role of helping hands in Industrial development from stake holders, perceptions: A survey conducted at Vitthal Udyognagar in Anand, district of Gujarat state, India. International Journal IJITAP, USA (Unpublished).
- [14] Pankhania, T. B., Jani H.J. (2012), Impacts of Globalization on Industrial Productivity: A Survey Conducted in Industries at Vitthal Udyognagar of Anand District of Gujarat,India,International Journal of Applied Operational Research, Vol.2,No.1,pp.13-22, Spring 2012.
- [15] Pankhania, T. B., Modi, V. K., (2011). Job satisfaction and Performance: A correlation analysis. Journal of industrial Engineering, Management, and science, National Institute of Technical Teachers Training and Research, Bhopal. .
- [16] Pankhania, T. B., Modi, V. K. (2011). Impacts of Globalization and Job training on productivity: A survey conducted in Industries at Vitthal Udyognagar, Anand district of Gujarat, India. Journal of industrial Engineering, Management and science, National Institute of Technical Teachers Training and Research, Bhopal. (Unpublished).
- [17] Pankhania, T. B., Modi, V. K. (2011). Factors Influencing Job Satisfaction Leading to Higher Productivity: A survey. International Conference on Information, Knowledge & Research in Engineering, Technology & Sciences-2012-ICIKR-ETS-2012,24-25MARCH,2012 at G.K.Bharad Institute of Engineering ,Rajkot.
- [18]Pankhania, T. B., Modi, V. K. (2011). Assessment of Productivity Scenario at Vitthal Udyognagar in Anand District, Gujarat. International Conference on Information, Knowledge & Research in Engineering, Technology & Sciences-2012-ICIKR-ETS-2012, 24-25, March 2012 at Shri G.K.Bharad Institute of Engineering, Rajkot.
- [19] Asthana, Hari Shankar, and Braj Bhushan (2007), "Statistics for Social Scinces", Prentice Hall of India, New Delhi.
- [20]Joseph A. Gliem and Rosemary R.Gliem(2003),Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales, Midwest Research ro Practice Conference in Adult,Continuing,and Community Education, The Ohio State University,USA.