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Analysis of Key Factors of Employee Retention: A Study of Indian Public Industry

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Abstract: ***With the increasing attrition in organizations especially in Indian Public Sector Organization, it has become a question of study. Employee retention is beneficial for the organization as well as to the employee. This paper deals with factors that are affecting the retention of employees in Indian Public Sector Organization and its impact on the Organization. The present paper uses Factor Analysis methodology for identifying the major factors relating to employee retention. The survey has been conducted in National Thermal Power Corporation Ltd (NTPC) Uchahar.***

Keyword: ***Employee Retention, Satisfaction, Dissatisfaction, Factor Analysis, Compensation, Growth, Support, Relationship.***

I. INTRODUCTION

The employee satisfaction has become an important factor for a company as well as employee. Decent salary, bonus and allowance are the top expectations of an employee towards the company. The cost of loosing talent involves both the time and resources that are utilized to hire new employees. The costs are both direct and indirect. There are the direct costs to recruit and train new workforce. It is hard to get the same level of talent back, additionally for a new employee; it also takes time to adjust to new working conditions and environment resulting in low level of efficiency in early stage which results in a greater indirect costs and loss of productivity. Less obvious are the costs of maintaining morale when there is change and threats of job cuts. According to the *American Management Association*, the cost to replace an employee who leaves is, conservatively, 30 percent of their annual salary.

II. RELATED LITERATURE REVIEW

In the recent paper, the author (*Shoaib M., etal,2009*) have made an in depth study on Determinants of Employee Retention in telecom sector of Pakistan telecom sector of Pakistan with 130 responses from 150 respondents regarding the impact of career development opportunities, supervision support, working environment, rewards and work life policies on employee retention. The study reveals that there is a positive relationship of career development opportunities, supervision support, working environment, rewards and work life policies with employee retention.

In another paper the author (Hope J.B, etal, 2007) made Study on Relationship between Employee Turnover and Employee Compensation in small business which explores the relationship between employee turnover and firm size as it relates to compensation using the National longitudinal survey of Youth (NLSY). The purpose of the study was to examine whether employee turnover differences between small and large firms are the result of differences in wages and benefits or of some form of self selection where employees of small businesses are simply more prone to high turnover rates than those in larger firms. Employees of large establishments stay in their jobs longer than employees of small establishments. Offering benefits improves employee retention. When a firm offers benefits, it decreases the probability of an employee's leaving in a

given year by 26.2 percent and increases the probability of staying an additional year by 13.9 percent. The paper also looked into the relationship between establishment size and earnings. The result showed that firm size has a positive impact on earnings for service and manufacturing occupations.

Another study on The Interactive effects of Organizational Politics and Exchange Ideology on Manager Ratings of Retention by Andrews C.M., (2003), examined the moderating effect of exchange ideology on the relation between perceptions of organizational politics and manager-rated retention. Data collected from 178 employees of a distribution services organization indicated that employees' perception of organizational politics is negatively related to manager assessments of retention. However, the variables were only related among employees with a moderate to strong exchange ideology. These individuals were more sensitive to a political environment than individuals with a weak exchange ideology.

Another author (John N.,2000) according to his research Career planning, key to employee retention with evolving technology fueling job and wage growth, the multifamily industry is forced to compete for top talent in new and non-traditional ways. Career Planning process, developed a new approach to retain and develop talent. Through an associate review that looks forward rather than backward, Career Planning helps the associate to understand all the opportunities available within the firm.

A Study on Attrition rate as it relates to Employee Loyalty and Retention, Executive leadership by the author (Rivera R., etal, 1999)., The purpose of this research was to discover why personnel leave a career or organization early, which departments are so affected and how executive leaders influenced employee loyalty and retention. Many departments did not see attrition as a problem. Others admitted to having to deal with the negative effects of early career departures of employees. The cost of replacing these was revealed as high. The experience base was established as having paramount importance. The research revealed that internal communication was not as effective.

III. Study Design and Survey Instrument

The data which was collected was mostly primary data. For primary data collection a structured questionnaire with 5-point Likert scale was prepared. The questionnaire was distributed to the employee of the NTPC, Uchahar for their responses. Sample Size taken for this research was 75 employees of NTPC, Uchahar. Sample frame for this project is employees of NTPC Uchahar.

In order to analyze the data, factor analysis i.e. data reduction method is used. In data reduction method factor analysis, KMO and Bartlett's test, Factor Extraction has been used to analyze the data. Also comparison of overall rank was done with the help of Maslow hierarchy of need theory. Tool which has been used in order to analyze the data is the SPSS 16.0 package.

3.1 SAMPLE

CHARACTERISTICS Table 1

Employees: Department-wise		
Department	**Frequency**	**Percent**
Internal Administration	31	41.3
External Administration	9	12.0
Engineering Department	26	34.7
wage board	8	10.7
Cooking	1	1.3
Total	75	100.0
Employees: Education-wise		
Education	**Frequency**	**Percent**
Post Graduation	15	20.0
Graduation	28	37.3
Diploma	26	34.7
Intermediate	6	8.0
Total	75	100.0
Employees: Age-wise		
Age	**Frequency**	**Percent**
<=30	15	20.0
31-40	26	34.7
41-50	7	9.3
>51	27	36.0
Total	75	100.0
Employees: Designation-wise		
Designation	**Frequency**	**Percent**
Executive	31	41.3
Non Executive	44	58.7
Total	75	100.0
Employees: Experience-wise		
Experience	**Frequency**	**Percent**
<=5	22	29.3
6-10	19	25.3
11-15	6	8.0
16-20	1	1.3
21-25	2	2.7
>26	25	33.3
Total	75	100.0

IV. ANALYSIS AND DISCUSSION

4.1. To understand the satisfaction levels of the employees.

Table 2Employees Satisfaction: Parameter-wise

SL. No.	**Variables**	**Satisfied**	**Percentage (%)**
1.	Salary	72	96
2.	Bonus	55	73.3
3.	Incentives	37	49.3
4.	Job Profile	61	81.3
5.	Achievement of Personal goal	53	70.6
6.	Opportunities for skill Enhancement	32	42.6
7.	Culture	43	57.3
8.	Respect	33	44
9.	Relationship with Colleagues	69	92
10.	Relationship with subordinate	67	89.3

11.	Up-gradation in Technology	48	64
12.	Work Stress	31	41.3
13.	Reimbursement ofchildren's Education	58	77.3
14.	Guidance and support	43	57.3

From the above Table 2, it was observed that the employee were satisfied with the parameters such as salary, bonus, Incentives, Job profile, Achievement of personal goal, Opportunities for skill enhancement, culture, Respect, Relationships with colleagues, Relationship with subordinate, up-gradation in technology, work-stress, Reimbursement of children's education, Guidance and support.

4.2. To understand the dissatisfaction levels of the employees.

Table 3 Employees Dissatisfaction: Parameter-wise

SL. No.	Variables	Dissatisfied	Percentage (%)
1.	Economic Benefits	14	18.6
2.	Medical Facility	24	32
3.	Miscellaneous Compensation	18	24
4.	Training and Development	20	26.6
5.	Rewards	26	34.6
6.	Recognition	21	28
7.	Emotional Support	13	17.3
8.	Feedback on work from Management	13	17.3
9.	Ethical Value	19	25.3

From the above Table 3, it was observed that the employee were dissatisfied with the parameters such as Economic Benefits, Medical Facility, Miscellaneous Compensation, Training and Development, Rewards, Recognition, Emotional Support, Feedback on work from management, Ethical Value.

Mainly we have got 9 main variables with which the sample employee were dissatisfied with. In order to see that whether these variables are associated with any other variable, factor analysis was conducted. In this research 23 variables were taken that are mainly responsible for employee retention. In order to club those variables into few factors, factor analysis was conducted. With the help of factor analysis we can see, all variables which are strongly correlated or associated with each other. Factor analysis was done through principal component analysis.

The first test in the factor analysis was the Kaiser-Meyer-Olkin (KMO) test was done which measure the sampling adequacy issued to compare the magnitudes of the observed correlation coefficients in relation to the magnitudes of the partial correlation coefficients.

Table No 4

KMO and Bartlett's test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.657
Bartlett's Test of Sphericity	Approx. Chi-Square	2.273E3
	Df	253
	Sig.	.000

SPSS first output shows several very important parts of the output: the Kaiser-Meyer-olkin measure of sampling adequacy and Bartlett's test of sphericity. The KMO statistic varies between 0 and 1.

A value of 0 indicates that the sum of partial correlations is large relative to the sum of correlations, indicating diffusion in the pattern of correlations. A value close to 1 indicates that pattern of correlation are relatively compact and so factor analysis should yield distinct and reliable factors. Kaiser (1974) recommends accepting values greater than 0.5 as acceptable (values below this should lead you to either collect more data or rethink which variables to include). Furthermore, values between 0.5 and 0.7 are good, values between 0.7 and 0.8 are excellent, values between 0.8 and 0.9 are great and values above 0.9 are superb (see Hutcheson and Sofroniou, 1999, pg.224-225 for more details). For these data the value is 0.657, which falls into the range of being good, so we should be confident that factor analysis is appropriate for these data.

Bartlett's measure tests the null hypothesis that the original correlation matrix is an identity matrix. For factor analysis to work we need some relationships between variables and if the R-matrix were an identity matrix then all correlation coefficients would be zero. Therefore, we want this test to be significant (i.e. have a significance value less than 0.05). A significant test tells us that the R-matrix is not an identity matrix; therefore, there are some relationships between the variables we hope to include in the analysis. For these data, Bartlett's test is highly significant ($p<0.001$), and therefore factor analysis is appropriate.

Factor Extraction:

Table No 5: Total variance explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	**10.280**	44.697	44.697	7.241	**31.484**	**31.484**
2	**4.913**	21.360	66.057	6.058	**26.340**	**57.824**
3	**1.658**	7.207	73.264	2.876	**12.506**	**70330**
4	**1.159**	5.039	78.303	1.542	**6.703**	**77.032**
5	1.065	4.632	82.936	1.358	**5.903**	**82.936**
6	.759	3.299	86.234			
7	.663	2.883	89.117			
8	.512	2.226	91.343			
9	.439	1.908	93.251			
10	.288	1.254	94.505			
11	.252	1.094	95.599			
12	.222	.964	96.563			
13	.176	.764	97.327			
14	.146	.634	97.961			
15	.121	.527	98.488			
16	.083	.361	98.849			
17	.077	.335	99.184			
18	.059	.256	99.440			
19	.047	.205	99.645			
20	.035	.153	99.798			
21	.027	.116	99.914			
22	.013	.057	99.971			
23	.007	.029	100.000			

This SPSS output list the eigen values associated with each linear component (factor) before extraction, after extraction and after rotation. Before extraction, SPSS has identified 23 linear components within the data set (we know that there should be as many eigen vectors as there are variables and so there will be as many factors as variables). The eigen values associated with each factor represent the variance explained by that particular linear component and displays the eigen values in terms of the percentage of the variance explained (so, factor 1 explains 44.697% of the total variance). Only first few factors explain relatively large amounts of variance (especially factor 1) where as subsequent factors explain only small amount amounts of variance. SPSS then extracts all factors with eigen values greater than 1, which leaves us with five factors. The eigen values associated with these factors are again displayed (and the percentage of variance explained) in the columns labeled *Extraction Sums of squared Loadings*. The values in this part of the table are the same as the values before extraction, except that the values for the discarded factors are ignored (hence, the table is blank after the fifth factor). In the final part of the table (labeled *Rotation Sums of squared Loadings*), the eigen values of the factors after rotation are displayed. Rotation has the effect of optimizing the factor structure and one consequence for these data is that the relative importance of the five factors is equalized.

Component Matrix:

Table No 6: Component Matrix

Component Matrix[a]

	Component				
	1	2	3	4	5
N1SAL		.801			
N2BON	.601		.596		
N3ECOBEN	.779				
N4INCEN	.630				
N5MEDFAC	.666				
N6MISCCOMP	.554	.511			
N7JOBPRO	.533	.569		.514	
N8PERGOAL	.611	.583			
N9SKILLENHANCE	.763				
N10TND	.861				
N11REWARDS	.841				
N12RECOG	.773				
N13EMOSUP	.662		.533		
N14FEEDMAN	.664				
N15RESPECT	.771				
N16CULTURE	.688				
N17ETHICAL	.691				
N18RELCOLLEAGUES		.790			
N19RELSUBORDINATE	.555	.703			
N20UPTECH	.534	.604			
N21WRKSTRS	.741				
N22REIMCHILD	.570				
N23GUDSUPP	.799				

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

This output shows the component matrix before rotation. This matrix contains the loadings of each variable onto each factor. By default SPSS displays all loadings; however, we requested that all loadings less than 0.499 be suppressed in the output and so there are blank spaces for many of the loadings. This matrix does not reveal the exact result what we are required of. We can see in the above table 6, it is showing 5 components extracted but in the fifth factor it is empty and most of the components are getting loaded in more than one factor so to know the exact result we go for the rotated component matrix.

Rotated component Matrix:

Table No 7: Rotated Component Matrix

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
N1SAL		.820			
N2BON			.771		
N3ECOBEN		.638			
N4INCEN		.625			
N5MEDFAC				.614	
N6MISCCOMP		.762			
N7JOBPRO		.623			.707
N8PERGOAL		.723			
N9SKILLENHANCE	.751				
N10TND		.686			
N11REWARDS	.785				
N12RECOG	.793				
N13EMOSUP			.787		
N14FEEDMAN			.741		
N15RESPECT	.856				
N16CULTURE	.799				
N17ETHICAL	.821				
N18RELCOLLEAGUES		.934			
N19RELSUBORDINATE		.939			
N20UPTECH		.839			
N21WRKSTRS	.819				
N22REIMCHILD	.764				
N23GUDSUPP	.833				

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

a. Rotation converged in 7 iterations.

From the above Table 7, we see that the entire component are being loaded in all the factor and they are clubbed together where these component are strongly/positively co-related to each other. So, from the above table 7, we can segregate all the parameter into five factors as shown in the table below.

Table No 8: Factors extracted from Rotated component matrix

Factors	Variables/parameter	Renamed
Factor 1	Skill Enhancement Rewards Recognition Respect Culture Ethical Value Work stress Reimbursement of children's Education Guidance and Support.	Organizational Culture and Value
Factor 2	Salary Economic Benefit Incentives Miscellaneous Compensation Personal Goal Training and Development Relationship with colleagues Relationship with Subordinate Up-Gradation in Technology	Benefits

Factor 3	Bonus Emotional Support Feedback from management	Management Support
Factor 4	Medical facility	Medical Facility
Factor 5	Job Profile	Job Profile

From the above Table 8 we can that the 23 variables have clubbed together into 5 five factors**.**

Factor 1 consists of parameter Skill Enhancement, rewards, recognition, respect, culture, ethical value, work stress, reimbursement of children's education, guidance and support. So we can say that these all parameter are strongly/positively co-related to each other. **Factor 1 has been renamed as organizational culture and value.** Reward, recognition and respect have been clubbed together because we know that the employee should be rewarded and recognized for their work what they do. By doing so the employee feel motivated and they feel that they are being respected by the other in the organization. Also in the factor 1 guidance and support, skill enhancement and work stress has been clubbed together because guidance and support and skill enhancement help the employee in doing the work smoothly. They feel less work stress and less tension in their work and with this they can concentrate more on their work. Ethical value and the reimbursement of children's education shows how well the culture of the organization has been maintain. They help their employee's children to get best education and help them to become a better citizen of the country.

Factor 2 consists of the parameter such as salary, economic benefit, incentives, miscellaneous compensation, personal goal, training and development, relationship with colleagues, relationship with subordinate and up-gradation in Technology. So we can say that these all parameter are strongly/positively co-related to each other. Salary, economic benefit, incentives, miscellaneous compensation, training and development, relationship with colleagues, relationship with subordinate and up-gradation in Technology are clubbed together because with all these parameter only an employee can achieve their personal goal in the life. Their desire in their life can be fulfilled with these parameter. If the employee get a proper training of their work they will be able to do their more efficiently as compared to others and with this their performances would be judged better, they will feel satisfied with the workplace and will maintain harmonious relationship with their colleagues and subordinate.

Factor 3 consists of parameter such as bonus, emotional support and feedback from management. So we can say that these all parameter are strongly/positively co-related to each other. Bonus, emotional support and feedback from management all 3 are clubbed together because emotional support and feedback is given by the employee supervisor or seniors. Bonus is also decided by the employee supervisor who takes into consideration the employee performance all around the period of work. So it can be taken into consideration that as the employee has his relation with the supervisor so would be his bonus for that period of work.

Factor 4 consists of parameter medical facility. This parameter has not been clubbed together with any of the parameter so it has been named as it.

Factor 5 consist of parameter job profile. As this parameter is also not clubbed with any of the other parameter so it has been also named as it is.

Overall Rank:

The second part of the questionnaire consist of 16 parameter such as salary and other monetary benefits, flexible timings, holidays/leaves, rewards/recognition/respect, relationship with Colleagues, support from management, guidance from management, career growth, job rotation, culture and environment, promotions, challenging job, family

concern, children education, physical need/ basic amenities, no better opportunities out of which the employees were asked to rank only five top priority parameter which they think made them to remain in the same organization.

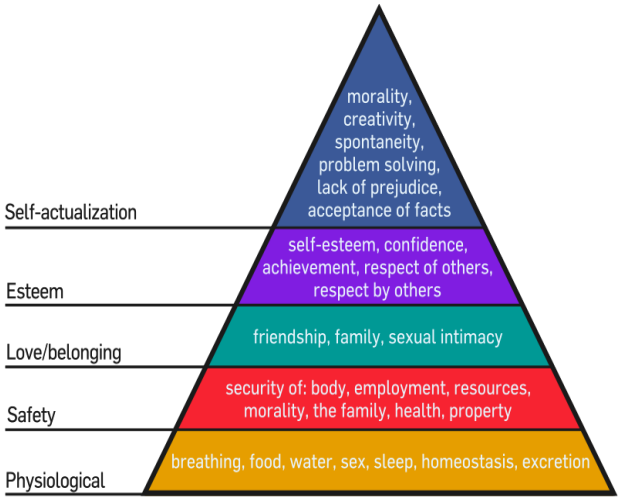
Table No- 9: Ranking of Priority

Factors	Rank
Salary and Other Monetary Benefits	First
Physical Need / Basic Amenities	Second
Family Concern	Third
Relationship with Colleagues	Fourth
Challenging Job	Fifth

from the above Table 9, based on the ranking which was given by the employees of the NTPC Uchahar, the first priority which was given by them was salary and other Monetary Benefits. 53 employees out of 75 have

Comparison between the overall rank given by the sample employee of NTPC and the Maslow hierarchy of need theory:

Factors	Rank
Salary and Other Monetary Benefits	First
Physical Need / BasicAmenities	Second
Family Concern	Third
Relationship with Colleagues	Fourth
Challenging Job ranked it as their 1st priority for retaining	Fifth



Comparison between the overall rank given by the sample employee of NTPC and the Maslow hierarchy of need theory:

Table No- 10: Overall Rank Vs Maslow hierarchy of need theory into the NTPC. Their second priority was the physical need/ basic amenities. 12 employees out of 75 have ranked as their 2nd priority for retaining into the NTPC. Their third priority for retaining into the NTPC was the family concern, 12 employees out of 75 have ranked family concern as 3rd priority. The forth priority which was ranked by the employees was the relationship with the colleagues. 15 employees out of 75 have marked ranked 4th to relationship with colleagues. Their fifth and last priority for retaining into the organization was the challenging job. 12 employees out of 75 have ranked challenging job as their 5th priority From the above Table 10, Overall rank given by the sample employee of NTPC and the Maslow hierarchy of need theory are compared and put into the Table 10. As can be seen that four needs of the Maslow hierarchy of need theory is fulfilled i.e., Physiological need, safety need, social need and the self-actualization need. But the organization is not able to full fill the employee's self esteem need which is respect and recognition.

So, the organization should come up with a new policy or make proper changes into their policy in order to full fill

this need of employee also then only they will be able to retain more number of talented people in their organization.

V. Conclusion and Suggestion

Training and Development	1. Training linked to achievement of competency targets and skill enhancement. 2. Encouraging job rotation.
Rewards and recognition	1. Give employees choice of rewards. 2. Increasing the longevity of rewards by symbolism. For e.g. if an employee has contributed to the department that work should be named after him so that for more no. of days he can be known for his work in the organization and he will feel motivated and satisfied.
Economic benefits	1. Subsidized transportation 2. Company leased accommodation 3. More educational benefits 4. Enabling to purse higher studies.
Medical Facility	1. Proper medical Facility should be made available in the plant to meet emergencies 2. Employees should be made aware of their medical facility so that they can avail it on the time of requirement.

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