FACTORS AFFECTING EMPLOYEE PERFORMANCE: AN ANALYTICAL STUDY WITH REFERENCE TO STATE-OWNED POWER GENERATING ORGANIZATIONS OF WEST BENGAL

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ABSTRACT

After 90s, economic liberalization put an end in monopoly business of State Public Sector Undertakings (PSUs) in power generating sector. Per unit cost of production of electricity of state owned organizations found to be considerable higher than that of private entrepreneurs. Out of the state owned power generating organizations, The West Bengal power Development Corporation Ltd (WBPDCL) has been identified as major stakeholder. The entire study focused on performance of the class III employees of WBPDCL who actually remain engage in Operation & Maintenance job of the organization. Out of 2072 number class III employees, 466 number employees have been identified as sample under stratified random sampling method. Respective reporting officers have been requested to rate the identified employees based on 18 parameters which have been identified from the review of existing literatures in line with our research. On receipt of the response in prescribed questionnaire, the same has been classified under five dimensions using SPSS software. A regression equation has been developed based on said factors which can estimate potential performance of the Class III employees. A sound knowledge about the said influencing factors will help the management to formulate appropriate strategy to manage performance of the employees efficiently.

Keywords - Employee, performance, PSUs, reporting officers, reviewing officers, state owned organization.

I. PRELUDE OF THE STUDY

In India the processes of liberalization started in early 1990s. During the last two and half decades the Indian economy has witnessed rapid growth due to various encouraging policy decisions and rising domestic and foreign capital inflows. In the era of liberalised economy, technology transfer throughout the globe has become a common phenomenon. Different Multinational Companies with world class technology and plenty of capital are looking for avenues of investment with a motive to earn higher return on investment. This has thrown a challenge before the traditional business organizations. The situation have also created requirement for knowledgeable, motivated and efficient workforce as important drivers for growth. Measuring and actively managing employee performance is currently considered as critical to the development and survival of organizations worldwide, especially under present intensely competitive economic scenario. Performance management is a broad concept that involves understanding and acting on the performance issues at each level

of organization, from individuals, teams and departments to the organization itself.

Availability of energy resources, especially electricity is a precondition for industrialization and sustainable economic activity. Government of West Bengal understand the basic requirement immediately after independent from British regime and established West Bengal State Electricity Board (WBSEB) on 1st May 1955 which was restructured and split into two companies, namely West Bengal State Electricity Distribution Company (WBSEDCL) and West Bengal State Electricity Transmission Company (WBSETCL)with effect from 1st April 2007 in compliance of Electricity Act 2003. In July 1985, state government established The West Bengal Power Development Corporation Limited (WBPDCL), a wholly-owned company of Government of West Bengal with the goal to carry on the business of thermal power generation in the state.

The Durgapur Projects Ltd (DPL) was incorporated on 6th September, 1961 for promotion of multiple activities like Coke Oven Plant, Bye-products Plant, Gas Grid Project, Thermal Power Plant and Water Works. West Bengal has altogether installed generation capacity around 5600 MW. Due to technical requirement, some schedule maintenance work is require to be done throughout the year to keep the plant healthy and as a result said units remain shutdown in alternative basis . At present, average generation of the state is around 3500 MW. Supply of quality power without major shading has created the state attractive for destination of capital.

After 90s private players have entered into the market with modern technology. Per unit cost of production per unit of electricity of said private entrepreneurs is very low compared to that of state owned organizations. Since, the sector has not yet been fully decontrolled, state regulatory commission continuously provide safeguard to the Public Sector Undertakings (PSUs) for their survival. It is ground reality that an organization cannot survive in long run with aid of any regulatory organization. At any point of time, such safeguard may be withdrawn by the government and the State PSUs have to face unhealthy competition with the private players. As far as the sustainability in the sector is concerned, the organizations have to improve their performance so that they can face upcoming challenges. Performance of the organization is largely dependent on individual performance of the employees. Improvement of individual performance of the employees will automatically lead the organizations to improve their performance. A clear understanding about the dimensions which can influence performance of the employee can help the management to yield desired output.

The study initially started with all five state owned organizations, namely WBPDCL, WBSEDCL, DPL, WEBREDA and WBGEDCL. As our research progress, insignificant presence of the four organizations namely WBSEDCL, DPL, WEBREDA and WBGEDCL in the arena of public power generation has been identified and accordingly they have excluded from the study. We have concentrated only on WBPDCL, a major stakeholder in this sector which contributes around 90% of the total generation and entire research work has been conducted in all 5 power plants of WBPDCL. We have concentrated only on class III employees of WBPDCL, engaged under different power stations in West Bengal.

II. REVIEW OF EXISTING LITERATURES

Number of research studies has already been conducted worldwide in the area of Employee Performance, mainly to explore the key factors responsible for influencing performance of the employee. A clear understanding about such research work is necessary to proceed with further study in the allied area. Accordingly, we have gone through available research publications in the concerned area and 18 numbers of

such research publications have been found relevant for our Research Work as follows:

McDaniel et al. (1988) quantitatively summarizes data on the relation between job experience and job performance from a total sample of 16,058. They have found moderate correlation between job experience and job performance. The highest correlations were obtained in populations with low mean levels of job experience and for jobs that place low levels of cognitive demands on employees. [1]

Frese and Fay (2001) argued that Personal initiative enables people to deal with job difficulties more actively. High Personal initiative changes the work situation of employees and relates to success as an entrepreneur. [2]

Skirbekk (2003) found that individual job performance decreases from around 50 years of age, which contrasts almost life-long increases in wages. Productivity reductions at older ages are particularly strong for work tasks where problem solving, learning and speed are needed, while in jobs where experience and verbal abilities are important, older individuals' maintain a relatively high productivity level. [3]

Palumbo et al. (2005) in their research compared the efficacy of job knowledge test in predicting task performance and examined the mediating effect of job knowledge in the cognitive ability-performance relationship. Results demonstrated that job knowledge was a better predictor of task performance than cognitive ability. The results expand current understanding of job knowledge as a predictor of performance. [4]

Judith et al. (2010) found that past performance may not be a good indicator of the suitability of an employee for a higher role. To take the business to the next level, organizations have to lay more emphasis on the potential appraisal of the employees in addition to their performance. The inference of the data analysis indicated that there were discrepancies in successors. This study implies that potential appraisal has a direct impact on business by enhancing competencies and capabilities of the employees, developing leaders and building strong successors to raise the bar of business. [5]

Holden et al. (2011) identified health conditions are associated with productivity loss in working Australians. They have found that, Health conditions impacted on both presentism and absenteeism. In this research it was conclude that, mental health conditions contributed more strongly to productivity loss than other investigated health conditions. [6]

Resubun et al. (2013) aim to analyze the factor affecting employee performance in Regional Owned Enterprises Papua Province. They found that wrong promotion of employee would reduce the work quality of employee; therefore, the placement of a person in a particular position should be conducted in thorough consideration and not merely on the considerations of emotional closeness, kinship or other subjective considerations. [7]

Askarian (2013) found that personality traits have an important role in enhancing the efficiency and effectiveness in performance. It was found that there exists significant relationship between job performance and personality traits. [8]

Yusoff et al. (2014) aim to assess reliability and validity among 677 teachers working in seven public and three private universities of Pakistan. The reliability was determined by calculating Cronbach Alpha Coefficients and Inter-Items statistics, whereas validity was assessed by running Exploratory and Confirmatory Factor. [9]

Khan et al. (2014) investigated the impact of attitude related factors on employee performance. Result shows that all attitudes related factors positively affect the employee performance. [10]

Kotur and Anbazhagan (2014) investigated the different performance levels of the workers in the Chittoor Sugar Factory located at the Chittoor town of South India. It was also studied how the factors education and work experience influence the performance levels of the workers in the firm. From this study, it has been understood that, the two variables under investigation have direct effect on the performance of the workers to varying degrees. Workers in the medium range on educational qualification perform better. [11]

Mohan and Gomathi (2014) in their study found that an organizational excellence is mainly dependent on its employee capabilities, skills and talents. The model developed by this study aims to improve the employee capabilities in terms of their commitment in the work spot individually and collectively contributing for the achievement of the organizational goals. [12]

Arsyad (2014) conducted his study to investigate the influence of working discipline on employee's working productivity of a motor vessel industry. The analysis shows that working discipline significantly influences employee's working performance. [13]

Amjad et al. (2015) observe that workplace friendship has variety of positive functions for individual performance and job satisfaction positively. [14]

Chughtai and Lateef (2015) in their Paper aim to examine the relationship between emotional intelligence and employee performance and ultimately its impact on organizational success. The overall results concludes that emotional intelligence is a vital tool having strong significant impact on both employees and organizations performance. [15]

Adegboyega et al. (2015) examined the effect of absenteeism on corporate performance. The findings of study show that, there was a significant relationship between absenteeism and corporate performance. The F test carried out for the model revealed that $\rho < 0.05$ which means the model is statistically significant. [16]

Juma and Moronge (2015) in their research tried to establish the influence of employee reprimand system, employee code of conduct, employee disciplinary procedures and employee rules and regulations on employee performance in Kenya with a case of Mukurwe-ini Wakulima Dairy in Nyeri County. The study concluded that, employee reprimand, code of conduct, employee rules and regulations and employee disciplinary procedures positively influenced employee performance. [17]

Awaludin et al. (2016) in their study tried to analyze effect of Job Satisfaction, Integrity and Motivation on Performance. The populations of this study are all health workers in the government hospitals in the City of Kendari. The results of this study showed that integrity have positive and significant impact on the performance of health workers in the government Hospital in the City of Kendari. [18]

III. Research Gap

After going through available research work in line with our study, following gap has been identified and we shall addressed the same in our study.

❖ A comprehensive investigation of the independent variables which may influence performance of the employees engaged in power sector and also estimation of degree of their influences.

IV. Objectives of the Study

After going through different research publications in line with our study and also understanding practical situations prevailing in state Public Sector Undertakings (PSUs) specially WBPDCL, it reveals that there exist some factors which can influence performance of the employees. To investigate the same, we have categorically defined objective of the study which will provide a pathway to the entire research work. The objectives of the study are:

1. To examine existing Performance Management System in detail.

2. To explore the factors significantly influence the performance of the employees.

3. To measure the degree of influence of such significant factors responsible for determining/ influencing performance of the employees.

V. HYPOTHESIS

Hypothesis has been formulated based on objective of the study and we shall test the same with the data to be collected during our study.

H_0: Different factors associated with the job have no significant impact on performance of the employees.

H_1: Different factors associated with the job have significant impact on performance of the employees.

VI. SOURCES OF DATA

Entire research work has been conducted based on primary data collected from all 5 plants of the West Bengal Power Development Corporation Ltd. Like other government organizations, workforce can be divided into four categories Class I, Class II, Class III and Class IV. Class I and Class II belongs to Managerial cadre and Class III belongs to Staff cadre and remain engaged in Operation/Maintenance activity. Class IV employees provide peon service who are less than 1.5% of the total workforce and engaged only in compassionate ground. Since our research work is targeted towards performance of the employees, we have concentrated Class III employees only who are directly associated with the Operation/Maintenance of the Organization.

VII. POPULATION

It appears from available office records that 2072 number of Class III employees was engaged in all five plants of the WBPDCL as on 1st June 2016. Therefore, said 2072 number Class III employees will be our target population.

VIII. COLLECTION OF DATA

We have relied upon primary data during the entire research process and the said data have been collected from class III employee of WBPDCL through questionnaire. As far as determination of the sample size is concerned, we have used Raosoft formula to determine appropriate sample size where population size is known. In our research, population size i.e. number of Class III employees is known and it is 2072 as on 1st June 2016. Therefore, sample size comes to 466 which is 22.49% of the target population.

IX. AREA OF STUDY

Ratings of the concerned controlling officers about 18 variables in respect of performance of 466 employees who are deployed in operation/ maintenance job in all 5 plants of the corporation have been taken into consideration.

X. PERIOD OF THE STUDY

Since, performance management is an on-going and continuous process, we have identified the employees as sample and requested their reporting officers to rate them based on their last one year activity i.e. July 2015 to June 2016.

XI. DATA ANALYSIS

In Our study, we have identified 18 variables based on available research work conducted by the different researchers in the allied area. Said 18 number variables are Age, Experience, Qualification, State of Health, Intelligence, Knowledge of Work, Quality of Work, Capability, Reliability, Judgement, Relation with Others, Discipline, Attendance, Integrity, Initiative, Attitude, Personality and Potentiality.

It is fact that, dealing with all such 18 number variables at a time is a difficult task. Therefore, we can go for factor analysis to club said variables into few groups. For this purpose, we can consider Kaiser-Meyer-Olkin (KMO) statistics to take decision whether Factor analysis will be appropriate for the available dataset or not. KMO varies between 0 to 1. If KMO is 0.60 or higher, we can proceed with factor analysis.

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.921
Bartlett's Test of Sphericity	Approx. Chi-Square	4200.052
	df	153
	Sig.	.000

From the above table, it appears that KMO value is 0.921 which is higher than 0.60 which indicates that sample is adequate. It is further observed that the value of Bartlett's Test of Sphericity is 4200.052 and the value is also significant. Therefore, we may proceed with Factor Analysis.

From the Total Variance Explained Table, we can get as follows:

Table 2: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	7.291	40.508	40.508	7.291	40.508	40.508	4.340	24.110	24.110
2	2.313	12.852	53.360	2.313	12.852	53.360	2.587	14.372	38.482

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3	1.065	5.914	59.274	1.065	5.914	59.274	1.900	10.558	49.040
4	.813	4.518	63.792	.813	4.518	63.792	1.711	9.507	58.547
5	.732	4.065	67.857	.732	4.065	67.857	1.676	9.311	67.857
6	.713	3.960	71.817						
7	.619	3.437	75.254						
8	.599	3.329	78.583						
9	.531	2.950	81.534						
10	.508	2.824	84.358						
11	.448	2.488	86.846						
12	.436	2.425	89.270						
13	.410	2.280	91.551						
14	.387	2.150	93.700						
15	.370	2.056	95.756						
16	.342	1.901	97.658						
17	.309	1.716	99.373						
18	.113	.627	100.000						

Extraction Method: Principal Component Analysis.

It reveals from the above table that, all five number factors have been extracted through factor analysis and these can explain 67.857% of the cumulative variance.

We have also constructed rotated component matrix in order to identify the factors in our study. This is represented as follows:

Table 3: Rotated Component Matrix

	Component				
	1	2	3	4	5
Intelligence	**.734**	.141	.100	.194	.237
Capability	**.728**	.082	.014	.283	.149
Judgement	**.721**	.035	.219	.054	.207
knowledge of Work	**.692**	.203	.348	.147	.005
Quality of Work	**.685**	.025	.308	.222	.054
Potentiality	**.681**	.093	.101	.201	.307
Initiative	**.602**	.122	.193	.140	.331
Age in Ordinal Scale	-.123	**-.928**	-.034	-.074	-.063
Experience in Ordinal Scale	-.106	**-.917**	-.015	-.092	-.064
Qualification	.101	**.843**	.044	-.012	.030
Attitude	.274	.044	**.739**	.054	.214
Reliability	.564	.126	**.575**	.138	-.039

Discipline	.138	-.055	**.574**	.460	.303
Relation with Others	.246	.020	**.444**	.389	.423
State of Health	.384	.202	.030	**.734**	.083
Attendance	.277	-.001	.267	**.684**	.201
Integrity	.193	.127	.315	.112	**.713**
Personality	.453	.035	.026	.203	**.682**

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 10 iterations.

From the above rotated component matrix table, it appears that coefficient value of Personality and Integrity is high in factor number 5 and we shall name the factor as **"Personal Characteristic"** since both Personality and Integrity is related with Personal Characteristic of an employee.

From factor no 4; it appears that the coefficient value of Attendance and State of Health is high compared to the other variables. We, therefore club these two variables and named them as **"Health Factor".**

Factor 3 reveals that, value of Attitude, Discipline, Reliability and Relation with Others is high compared to the other variables. Therefore we can club these fore variables together and assign name of the factor as **"Workplace Relationship"**.

From factor 2, it appears that value of Age, Experience and Qualification is high. Therefore, these three variables can be grouped together and called as **"Growth and Maturity"**.

At last but not the least, we can find that value of Intelligence, Capability, Judgement, Knowledge of Work, Quality of Work, Potentiality and Initiative is comparatively high compared to the other factors and all the variables are related with Worthiness. Therefore, we can club them into a factor and called it as **"Worthiness"**.

It also appears from the total variance explained table that, Worthiness is the most influential factor followed by Growth and Maturity, Workplace Relationship, Health Factor and Personal Characteristic.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.804[a]	.647	.643	.297

a. Predictors: (Constant), Worthiness, Growth and Maturity, Personal Characteristic, Health Factor, Workplace Relationship

Table 5: Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-4.132	.177		-23.309	.000

Personal Characteristic	.058	.019	.115	3.078	.002
Health Factor	.070	.017	.152	4.049	.000
Workplace Relationship	.080	.012	.287	6.835	.000
Growth and Maturity	.058	.008	.216	7.581	.000
Worthiness	.059	.007	.393	9.038	.000

a. Dependent Variable: Potentially Performer

From the Coefficients table, it appears that, p value of all the five factors i.e. Personal Characteristic, Health Factor, Workplace Relationship, Growth and Maturity and Worthiness is less than .05. We may therefore, reject Null Hypothesis (H_0) and accept the Alternative Hypothesis (H_1) and conclude that Different factors associated with the job have significant impact on performance of the employees.

From the table we can get the value of Constant and coefficients of respective factors. With the help of said values we can develop a multiple regression equation as follows:

$$Pp = -4.132 + .058P + .070H + .080Wr + .058G + .059W$$

We have denoted Potential Performance by **Pp**, Personal Characteristic by **P**, Health Factor by **H**, Workplace Relationship by **Wr**, Growth and Maturity by **G** and Worthiness by **W**.

XII. CONCLUSIONS

From the analysis it appears that, the null hypothesis has been rejected and alternative hypothesis has been accepted. Therefore, statistically it is established that, different factors associated with the job have significant impact on performance of the employees. With the help of coefficient value, we have developed a regression equation which can estimate performance score of the employees.

XIII. RECOMMENDATIONS

Based on findings of the study we may recommend as follows:

(i) Management ma create a congenial atmosphere which will focused on the most influential factor "Worthiness" in order to get improved performance of the employees which will enhance overall performance of the organization.

(ii) The regression equation as developed in our study may be utilised in promotional decision making purpose.

XIV. LIMITATIONS AND FURTHER SCOPE OF STUDY

The research has the following limitations:

(i) The study has been conducted in Public Power Generating Organization of West Bengal, especially The West Bengal Power Development Corporation Ltd.

(ii) The study has been conducted on class III employees of WBPDCL. Influence of the factors on performance of officers yet to be identified.

(iii) The influencing factors so identified in this study, may be tested in power sector of other states of India.

Reliable outcome in other states of India will establish it into a strong base.

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