THE RELATIONSHIP BETWEEN HUMAN RESOURCE UTILISATION AND THE OPERATIONAL EFFICIENCY OF MAHARASHTRA STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED (MSEDCL)

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Abstract
This research paper aims to study the relationship between the human resource utilisation and operational efficiency of Maharashtra State Electricity Distribution Company Limited (MSEDCL). Maximum productivity level cannot be achieved, unless the essential material resources are available, even if an organization has gotten all the money and materials it needs. This study will help to expose all dimensions of company regarding actual performance and will also help in providing a better foresight for the further improvement in the services for the attainment of proper level of satisfaction of consumers and growth of the company.
Research Design and Methods: - The study focused on functional quality offered by the electricity distribution company to its employees within Maharashtra. Data were collected by using a pre-tested questionnaire based on Likert Scale and corelation test to measure the association between human resource utilisation and operational efficiency of the company.
Discussion and Implications: - The study suggested that there is a strong association between the human resource utilisation and operational efficiency into electricity utility organisation that operates in a monopolistic market. The paper has a significant diagnostic value in the present sense that it identifies areas where the public electricity utility must direct its resources in order to satisfy its consumers. As findings from this study depict, human resources management practices have an effect on organizational commitment both singly and systematically.
Keywords – Efficiency, Electricity Distribution Company, Improvement, Human Resource Management, Operational Efficiency.

1. Introduction
Power is one of the most critical components of infrastructure crucial for the economic growth and welfare of nations. The existence and development of adequate infrastructure is essential for sustained growth of the Indian economy. As service organizations are labour-intensive organizations, the efficiency of human resources practices and the organizational commitment of the employees is very important. Human resource management is the function within an organization that focuses on recruitment of employees and providing direction for the people who work in an organization. Human resource management is one of functions to solve the issues related to employees such as organization development, safety, wellness, benefits, employee motivation, compensation, hiring, performance management, communication, administration and training. Human resources management can play a role in identifying and analysing external opportunities and threats that may be crucial to the company's success.

2.1 Human Resource Utilisation/Management

The term human resource utilization means the effective and efficient use of human resource in an organization in order to achieve business goals, consumers satisfaction and development of any organization, and to avoid wastage of manpower. Human resources are the people who constitute the workforce in an organization. According to Olagboye (2004), people and knowledge, skills and attitudes in them constitute resources. The survival of corporate industries is dependent on maximizing profits from existing capabilities, while recognizing and adjusting to the fact that what may work today may not necessarily work in the future (Kortmann, Gelhard, Zimmermann, & Piller, 2014). The term human resources utilization refers to a means whereby managers are able to employ the right workers for the right job, train and develop the workers so that they contribute meaningfully to pursue the organizational goal to avoid wastage. Also to maintain the productive work force through various retention initiative such as motivation in other to continuously sustain productivity at a minimum cost and maximum output. Organizational productivity is determined by employees' efforts and engagement (Musgrove, Ellinger, & Ellinger, 2014). The effective and efficient use of limited resources calls for a skilled and competent workforce, among others. If an organization is to have a skilled and competent workforce, it must have effective Human Resource Development (HRD) programs (Mathis, Jackson, &Valentine 2014; Noe, Hollenbeck, Gerhart, & Wright, 2015; Blanchard & Thacker, 2013; Werner & DeSimone, 2011). Stone (1998) further remarked that "HRM is either part of the problem or part of the solution in gaining the productive contribution of people" (p. 4). In other words, an HR system (the set of interrelated process designed to attract, develop, and maintain human resources) can either enhance or destroy this potential competitive advantage (Lado & Wilson, 1994 quoted in Casio & Aguinis, 2011:9). Studies show that human resource utilisation may have direct and indirect impact on business results and concluded that effective human resource utilisation has a positive effect on business profitability

2.2 Operational Efficiency

The operational efficiency of MSEDCL is its ability to utilise available resources to the maximum extent. When there are any organised activities social or economic, all related parties seek to achieve the object or objectives behind these activities with the minimum expenditure or cost. In other words, getting the maximum output from the available resources can be called operational efficiency of MSEDCL for this study. In a business contest, efficiency can be synonymously used to the operational efficiency. Operational efficiency aims at operational excellence. It is a qualitative concept. So, to measure an efficiency, it is required to set performance indicators or the benchmarks. Business plans, politics and strategies all should be directed towards the improvement of efficiency. Operational efficiency includes and expects efficiency in every factor or part of the business concern. In most of the literature, operational efficiency is defined as the ratio of input utilised in carrying out a business operation to the output produced with those inputs or as the ratio between an output gained from the business and an input to run a business operation technically.

3. Objectives of the Study

1) To study the relationship between human resources and the operational efficiency of MSEDCL in the study area.
2) To study the expectations of the employees from the MSEDCL.

4. Hypothesis of the Study

The following hypothesis was developed and further subjected to empirical testing:

H0: There is no significant relationship between utilisation of human resource and operational efficiency

H1: There is significant relationship between utilisation of human resource and operational efficiency

5. Research Methodology

5.1. Sample Design

1.7.2.1. Population of the Sample - The area of the study is Kolhapur Circle. employees of all grades working in Kolhapur Circle and agencies engaged in meter reading, distribution and collection of bills in Kolhapur Circle are constituted as the population of the study. Which is exhibited in Table no..

1.7.2.2. Size of Sample – as the population is known the Taro Yamane's formula is used for the determination of sample size of the study. Following is the formula.

$$n = \frac{N}{1 + N(e)^2}$$

Where,

n = Sample Size

N = Population Size and

e = The error of sampling

5.1.1. Selection of Sample Respondents

Multi Stage Stratified Random Sampling technique for selection of sample is used for selection of sample respondents. Following are those stages and stratas.

Stage 1 –

At the first stage the researcher has selected Kolhapur District as a study area on conventional basis.

Stage 2 –

The Kolhapur District consists of 6 Divisions of MSEDCL, viz. Gadhinglaj, Ichalkaranji, Jaysingpur, Kolhapur Rural I, Kolhapur Rural II and Kolhapur Urban. Considering the number of employees working in MSEDCL in the study area the total number of sample respondents from each strata is determined by using Taro Yamane's formula as explained above.

Stage 3 –

As explained in the stage 2 the total number of sample respondents determined is further allocated proportionally into each substratas of employees as under. The MSEDCL has divided their employees in two stratas Technical and Non-Technical and they are further divided into 4 stratas as per their grade pay. In all, there are 4639 employees in the study area. Applying Taro Yamane's formula for total number of employees as explained above, the number of sample respondents was arrived at 368. This sample size proportionally allocated into each strata – Technical – Non Technical, Grade Pay Group - I, II, III, IV in order to give proper representation to the employees from each strata. Thus, the sample size of this strata is 368 presented in the table no. 1.1.

Table No. 1.1 – Distribution of Sample Respondents (Employees)

Pay Group	Population (N)	Sample Respondents (Proportional) (n)

	Technical	Non Technical	Total	Technical	Non Technical	Total
I	51	15	66	05	01	06
II	353	55	408	28	04	32
III	1202	541	1743	95	43	138
IV	2282	140	2422	181	11	192
Total	3888	751	4639	309	59	368

(Source – Record of Kolhapur Circle of MSEDCL)

5.1.2. Likert Scale Calculations

According to Kasmadi and Sunariah, (2004) Likert scale is psychometric scale commonly used in questionnaires, and is the most widely used scale in survey research. When responding to a questionnaire item, the respondent specified their level of agreement or disagreement from series of statements. Thus, the scale captures the intensity of their feeling scale for a series of statements. Questions were measured using a Likert Scale of 1-5 presented using interval scales. The researcher used a Likert scale developed by Rensis Likert in 1932 to measure the level of consumer satisfaction of MSEDCL. To interpret the value on each Likert Scale, number of responses by respondents divided by total respondents and calculated in percentage. Satisfaction index of each attribute is then measured from each Likert scale percentage multiplied by Likert scale point and divided by 5 as total Likert scale

Table No. 1.2 – Likert Scale Point

The Likert scale point	The interval satisfaction index
1 - Strongly Dissatisfied	0% - ≤ 20% - Strongly Dissatisfied
2 - Dissatisfied	20% - ≤ 40% - Dissatisfied
3 - Neither Nor or neutral	40% - ≤ 60% - Neither Nor or neutral
4 - Satisfied	60% - ≤ 80% - Satisfied
5 - Strongly Satisfied	80% - ≤ 100% - Strongly Satisfied

5.1.3. Reliability of variables: Reliability is defined as the consistency of either measurement or design to give the same conclusions if used different times by different scholars. The reliability of the questionnaire was computed using SPSS to determine the Cronbach's Alpha coefficient. After data collection, reliability analysis was done. Using Cronbach's alpha, reliability is calculated using the variance of individual items and covariance's between the items. It is found that the researcher is reliable for the value of Cronbach's alpha reaching more than 0.6 (Kasmadi, 2014). This validity test measured by a software, IBM SPSS Statistic 22.

Table No. 1.3 - Reliability Statistics

Cronbach's Alpha	No. of items

0.860	30

Source: Primary

5.2. Data Collection –

a) Primary Data – An Online questionnaire was used in this research to collect the primary data. Questionnaire was distributed through WhatsApp, Google Form and Kobo Tool Box Link to all employees of MSEDCL across all the divisions of Kolhapur Circle. The questionnaire consists of 39 questions based on attributes related to human resource utilisation and its impact.

b) Secondary Data – Many local and international articles, websites related to human resource utilisation and its impact have been used as secondary data for this study.

6. Data Analysis

6.1. Human Resource Utilisation and Operational Efficiency

To measure the system of Utilization of Human Resource the researcher has used 8 variables with 5-point Likert scale, such as -

Table No. 1.4 – Human Resource Utilisation Variables

Sr.	Opine regarding Human Resource utilization in MSEDCL for the improvement of operational efficiency.
1	Work/ Task Completion within time (As per standard time)
2	Work allocation/ Allotment as per your knowledge, skill, expertise, education and experience
3	Salary increment/ Incentives/ Promotion based on experience and performance
4	Achievement of target within time/ less work pressure
5	Skill improvement through training programme arranged by MSEDCL regularly
6	Proper deployment of Manpower/ Recruitment of Right Person at the Right Time at the Right Job by MSEDCL
7	Completion of incomplete work with the cooperation of colleagues and assistants
8	Healthy and positive working environment

For the measurement of the "operational efficiency." researcher sets 8 variables with 5 point Likert scale, such as -------

Table No. 1.5 – Improvement in Operations

Sr.	Improved Operations
1	Proper Billing and Accurate and Timely Reading

2	Timely Bill Distribution
3	Timely, Proper Maintenance with qualitative equipment
4	Timely Consumer Complaint Redressal through MSEDCL system
5	Timely supply of qualitative Instruments
6	Development in Infrastructural Facilities
7	More use of New Technology
8	Prompt and Accurate service delivery to consumers

TESTS OF NORMALITY

Normality tests are tests of whether a set of data is distributed in a way that is consistent with a normal distribution. Typically, they are tests of a null hypothesis that the data are drawn from a normal population, specifically a goodness-of-fit test.

Table No. 1.6 Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Human Resource utilization	.157	368	.000	.904	368	.000
Operational efficiency.	.153	368	.000	.917	368	.000
a. Lilliefors Significance Correction						

The above table indicates the test of normality. It is concluded that there is Shapiro-Wilk Sig. (.000) value is less than Level of significance (0.05) on the other hand there is Kolmogorov-Smirnov sig value of all parameters are less than level of significance (0.05). It is implied that data of all parameters are significant for testing of hypothesis.

After that, researcher has calculated mean value of system of **Human Resource Utilization in MSEDCL** and mean value of **Improved Operational Efficiency** and then researcher has used test of Pearson correlation for the present hypothesis.

Table No. 1.7

Correlations Between Human Resource utilization and Operational efficiency

		Human Resource utilization	Operational efficiency
Human Resource utilization in MSEDCL	Pearson Correlation	1	**.972**[**]
	Sig. (2-tailed)		.000
	N	368	368
Operations efficiency	Pearson Correlation	**.972**[**]	1
	Sig. (2-tailed)	.000	
	N	**368**	368
**. Correlation is significant at the 0.01 level (2-tailed).			

 Source: Primary

The Pearson correlation value **.972**[**]indicates that there is positive relationship between utilization of human resource and operational efficiency. It also shows that there is significance relationship between system of Distribution of energy bills and arrears of energy bills, as the P value is $0.000 < 0.05$. Although the significance value has set to 0.05 but it has reached to 0.01 i.e. 99% of confidence level. Therefore, the **null hypothesis has been rejected** HO: There is no significant relationship between utilization of human resource and operational efficiency

Table No. 1.8

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.972[a]	.945	.945	**.141**
a. Predictors: (Constant), **Operational efficiency**				

The data in the above table shows the Regressions value R square value of 0.945, which is interpreted that the R square value is high, The R square value also represents that there is 94 % of predictability in the change of independent variable to change of dependent variables. In further table we can see there is significant relationship between Utilization of Human Resource and Operational Efficiency of MSEDCL.

Table No. 1.9

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	125.999	1	125.999	**6.324E3**	.000^a
	Residual	7.292	366	.020		
	Total	133.292	367			
a. Predictors: (Constant), **Operations efficiency**						
b. Dependent Variable: V1 **Human Resource utilization**						

The sum of square columns where the value for regression sum of square is 86.148and value of sum of square for residual is 83.918. Here the residual value is less. It is found that significant relationship between utilization of human resource and operational efficiency. As the P value is 0.001< 0.05. It is concluded that **H1: There is no significant relationship between utilization of human resource and operational efficiency is rejected.**

The above table clearly shows that there is a significant relation between Utilization of Human Resource and Operational Efficiency is rejected. The t value of Operational efficiency is 79.522 and significant value (.000) is less than level of significance (0.005). The study **Rejects Null Hypothesis** at 5% significance level. It is found that H1: There is no significant relationship between significant relationship between utilization of human resource and operational efficiency is rejected.

Conclusion:

This research study shows that the effective utilisation of human resources has impact on operational efficiency of the company. Based on the findings of this study it is concluded that emphasis should be on recruitment/selection of qualified personnel. Performance appraisal should be based on rewarding effective and productive personnel. Motivation should be encouraged by management to deserved personnel this is no doubt will enhance the performance of the organization. Government on the other hand should provide the enabling environment, provide the basic infrastructural such as water, road, educational materials, teaching aids, science laboratory etc. so as to improve the educational standard in an institution of learning. The study recommends that recruitment and selection should be effectively done in order to maximize employee's productivity. The study recommended that staff training and development should be strengthened and encouraged. This can be done through the organization of workshops and seminars to enable the employees to have knowledge of their work and take advantage of it to boost their productivity. The study recommended that employee's performance appraisal should be taken seriously so as to boost their productivity.

The high satisfaction level of consumers always has positive impact on the profitability of the firm and vice versa. The survey shows the positive correlation between the effective human resource

utilisation and operational efficiency of the company. The meter reading system, awareness program of online services, accurate billing system should be adopted by MSEDCL for further improvement. Based on the results of SPSS stated that service quality and performance of the company influences the satisfaction level of consumers. These results are very important for MSEDCL to improve the quality of service and deliver unique and qualitative service that can be consistent as a trendsetter MSEDCL. Thus, the survey in future will be very useful to the company for its better performance and profitability.

References:
1) Nairn, M. M., & Towill, D. R. (1991). Supply Industry. 6(1990), 549–556.
2) Olagboye, A.A. (2004). *Introfuction to educational management. Ibadan:* Daily Graphics (Nigeria) Limited.
3) Okwori, A. (2006). *Educational Planning for Community Development. In J.B. Babalola, A.O. Ayeni, S.O.Adedeji, A.A. Suleiman and M.O. Arikewuyo (Eds.). Educational Management Thoughts and Practice.* Ibadan: Codat Publications.
4) Qureshi MT, Ramay IM (2006) Impact of Human Resource Management Practices on Organizational Performance in Pakistan, Muhammad Ali Jinnah University, Islamabad.
5) Bratton J, Gold J (2007) Human Resource Management: Theory and Practice (4thedn), Houndmills: Macmillan.
6) Chand M, Katou A (2007) The impact of HRM practices on organizational performance in the Indian hotel industry. Employee Relations 29: 576-594.
7) Ogbodo CY (2007) Annals of Management Accounting: An Empirical Approach (1stedn), Awka: Rex Charles and Patrick Ltd.
8) Huselid MA, Jackson SE, Schuler RS (2007) Technical and strategic human resource management effectiveness as determinants of firm performance. Academy of Management J 40: 171-189.
9) Jost JT, Nosek BA, Gosling SD (2008) Ideology: Its Resurgence in Social, Personality, and Political Psychology. Perspect Psychol Sci 3: 126-136.
10) Preuss L, Haunschild A, Matten D (2009) The Rise of CSR: Implications for HRM and Employee Representation. Int J Human Resource Management 20:953-973.
11) Kenneth M (2009) Human Capital Development Crucial to Vision 20-2020. Business News.
12) Moorhouse L, Cunningham P (2010) Permanently in process: the intersection of migration, work identity and the reality of human resource development in the South African context. J Human Resource Development Int 13: 587-597.
13) Budd JW, Bhave D (2010) The Employment Relationship. In: Wilkinson A, Redman T, Snell S, Bacon N (eds.) The SAGE Handbook of Human Resource Management Los angeles: SAGE 51-70.
14) Kaiser S (2011) Creating Balance? International Perspectives on the Work-Life Integration of Professionals. Berlin: Springer.
15) Naff, K. C., Riccucci, N. M., & Freyss, S. F. (2014). *Personnel Management in Government: Politics and Process* (7th Ed.). New York: Taylor & Francis.
16) Noe, Hollenbeck, Gerhart, & Wright (2015). Human Resource Management (9thed.). New York: McGraw-Hill, Irwin.
1) MSEDCL Annual Report – 2010-11 to 2016-17
2) MSEDCL Revenue Budget – 2010-11 to 2015-16
3) Economic Survey of Maharashtra – 2016 -17, 2017-18

4) Maharashtra Budget Analysis- 2016-17
5) Government of India power Department Report.

Websites
- http://www.powermin.nic.in
- http://www.mahadiscom.in
- http://www.mahagenco.Com.in
- http://www.mahatransco.com.in
- http://www.mrcindia.org.in
- https://www.powerministry.org.in
- https://www.ibef.org.in
- http://www.planningcommission.org.in
- http://www.shodhganga.inflibnet.ac.in/bitstream