



DIMENSIONS OF EMPLOYEES IN THE TECHNICAL INSTITUTIONS OF MADHYA PRADESH

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The basis of development of a country or state is not only the abundance or prosperity of its resources, rather efficient, expert and talented manpower is the necessary component. Knowledgeable and expert manpower is created through technical education. Therefore, it is essential for the development of a country or state and first of all the development of higher education must be ensured. To ensure this development, maximum focus has been laid on the growth of technical education in Madhya Pradesh since last 20 years and as a result these institutions have increased rapidly in the whole state.

Human resources itself is a huge power. The very important role of human resources in any institution cannot be neglected. Therefore, more and more attention is being paid by all the institutions to the proper planning of manpower. It is necessary to pay attention to the merit, time, place, level, importance of salary for the planning of manpower. When this is possible, employees do not have difficulty in performing the work as it is selected on the basis of their efficiency. The most basic feature in this regard is Job Retention as if the institution retains an employee for longer periods, it can be helpful to attain the desired objectives of the organization.

The three major support system of every vocational education center may be : worth of the teaching staff, organization amenities and teaching atmosphere. Since there is a rise in the demand-supply gap, institutions everywhere are going through huge search regarding talent. Same as the commerce and enterprises, teaching sector is also determining the necessity concerned with talent so that novel quality standards could be met which are every now and then demanded by the society and there is a leadership crunch as well. Although maximum vocational teaching centers, particularly skill training institutes and colleges are capable to make progress in the required skills amongst the students so that they



can gain success in the working environment, know-how expresses that the management associated with the imminent vocational and management institutions have been unsuccessful to be judicious and reasonable in the behaviour concerned with their teachers, which has ultimately resulted in high faculty turnover. In fact the question is that whether there is any Employee attrition and retention affects various dimensions of technical education and employment, along with the income, business and economic development, these facts inspire for a study.

Review of Literature

Gopalakrishnan V. (2009) in his research paper titled "**Study of facts related to the satisfaction of teachers serving in self-financing colleges**" studied the facts related to work satisfaction of teachers serving in self-funded colleges. The main objective of the research was to identify the facts of the satisfaction of the teachers of the self-funded colleges as well as to give suggestions to increase their satisfaction. Primary and secondary data were collected for research method. Satisfaction scales of teachers were used for collection of primary data. A total of 518 teachers were selected as respondents, of which 135 were male teachers and 383 were female teachers. Likert's 5 point level scale was used for calculation. The following areas were selected for satisfaction measurement - principal, student and parent, educational facilities, self-esteem, salary and additional facilities, opportunities to move forward, educational policies, co-teacher, management and job assurance. Many teachers in self-financing institutions were found satisfied in many dimensions and dissatisfied in many dimensions.

Raja Dr. Antony John V. and Kumar Ranjit Anbu R. (2016) in their research paper titled **A Study on Employee Retention Strategies in Education Sector in India** have attempted in comprehending the virtue and approaches of the numerous groups of employees of the following Institutions - S.S.H.S.S., Prof. Dhanapalan College and Sri Krishna Engineering College regarding the retaining of employees in their institution. It is crucial to discover the elements that inculcate with the employee retaining when ongoing age is of of employee



shortages and demands of the job are always increasing in education sector.

Tripathi Dr. Ruchi and Singh Dr. Vinay Pratap (2017) in their research paper titled "**A Study on Employee Retention in Education Sector in India(with special reference to Noida Region)**" have attempted in knowing and searching the outlook and approaches of the different types of faculties working in the Institute of Management Studies (Noida), Asian Business School (Noida) and Jaipuria Institute of Management, Noida towards the employee retention in the institution. It was necessary too to discover the features associated with retention.

Research Methodology

This paper includes analysis of the employees in technical institutions of Madhya Pradesh. A study has been conducted according to the number of employees working in these institutions and the results relating to faculties teaching in various courses according to the districts have been quantified. The analysis has been done according to the faculties teaching in various courses i.e. the colleges conducting a particular course have been taken in consideration. Colleges conducting more than one course have not been counted separately i.e. If a college is conducting BE course and MCA is also running there, the number has been added in both categories because the analysis is based on the staff and staff is different for all courses. The colleges opened before the year 2010 have been considered for the analysis.

Objective

The objective of the paper is -

- To study the relation between staff and districts of Madhya Pradesh as per the courses conducted.



Hypothesis

The expected outcome of the research in the form of main hypothesis of the research-study is as follows:-

H0 There is no significant difference between number of staff in technical colleges and Districts of Madhya Pradesh.

H1 There is a significant difference between number of staff in technical colleges and Districts of Madhya Pradesh.

Hence the detailed analysis of the staff of the technical institutions under Rajiv Gandhi Prodyogiki Vishwavidyalaya on the basis of secondary data is given as below -

Analysis of the Staff in technical education of the state was performed on the basis of secondary data available from RGPV. The criteria for employees is working period less or more than 5 years because Retention can be analyzed only when the employee has completed the duration of 5 years in the job. The details are as follows -

Table

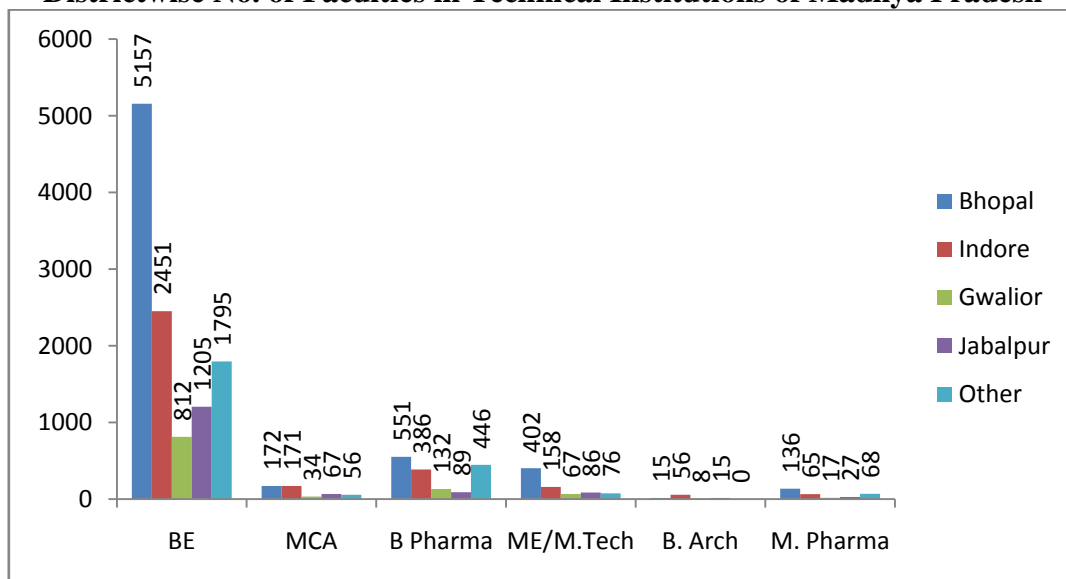
Districtwise No. of Faculties in Technical Institutions of Madhya Pradesh

Districts	BE	MCA	B Pharma	ME/M Tech	B. Arch	M. Pharma
Bhopal	5157	172	551	402	15	136
Indore	2451	171	386	158	56	65
Gwalior	812	34	132	67	8	17
Jabalpur	1205	67	89	86	15	27
Other	1795	56	446	76	0	68

Source: RGPV Bhopal

Graph

Districtwise No. of Faculties in Technical Institutions of Madhya Pradesh



Statistical Analysis

Calculation of Arithmetic Means

Districts	BE	MCA	B Pharma	ME/M Tech	B. Arch	M. Pharma
Bhopal	5157	172	551	402	15	136
Indore	2451	171	386	158	56	65
Gwalior	812	34	132	67	8	17
Jabalpur	1205	67	89	86	15	27
Other	1795	56	446	76	0	68
Total ($\sum x$) N = 5	11420	500	1604	789	94	313
Mean (\bar{X}) = $\frac{\sum x}{N}$	2284	100	320.8	157.8	18.8	62.6



Collective Mean

$$(\bar{X}_c) = \frac{(\bar{X}_1) + (\bar{X}_2) + (\bar{X}_3) + (\bar{X}_4) + (\bar{X}_5) + (\bar{X}_6)}{6} = \frac{2284 + 100 + 320.8 + 157.8 + 18.8 + 62.6}{6} =$$

490.67

Sum of Squares of Variance = $\left\{ \sum nk(\bar{X}_k - \bar{X}_c)^2 \right\}$

$$= n_1(\bar{X}_1 - \bar{X}_c)^2 + n_2(\bar{X}_2 - \bar{X}_c)^2 + n_3(\bar{X}_3 - \bar{X}_c)^2 + n_4(\bar{X}_4 - \bar{X}_c)^2 + n_5(\bar{X}_5 - \bar{X}_c)^2 + n_6(\bar{X}_6 - \bar{X}_c)^2$$

$$= 5(2284 - 490.67)^2 + 5(100 - 490.67)^2 + 5(320.8 - 490.67)^2 + 5(157.8 - 490.67)^2 + 5(18.8 - 490.67)^2 + 5(62.6 - 490.67)^2$$

$$= 5(1793.33)^2 + 5(-390.67)^2 + 5(-169.87)^2 + 5(-332.87)^2 + 5(-471.87)^2 + 5(-428.07)^2$$

$$= 16080222 + 763102 + 144273 + 554001 + 1113291 + 916205$$

= 19571095

Degree of Freedom (df_1) = $k - 1 = 6 - 1 = 5$

Variance amongst samples = $\frac{\left\{ \sum nk(\bar{X}_k - \bar{X}_c)^2 \right\}}{k - 1} = \frac{19571095}{5} = 3914219$

Calculation of sum of squares of the Variance

BE

Districts	X_1	$(X_1 - \bar{X}_1)$	$(X_1 - \bar{X}_1)^2$
Bhopal	5157	2873	8254129
Indore	2451	167	27889
Gwalior	812	-1472	2166784
Jabalpur	1205	-1079	1164241
Other	1795	-489	239121
			$\Sigma(X_1 - \bar{X}_1)^2 = 11852164$



MCA

Districts	X_2	$(X_2 - \bar{X}_2)$	$(X_2 - \bar{X}_2)^2$
Bhopal	172	72	5184
Indore	171	71	5041
Gwalior	34	-66	4356
Jabalpur	67	-33	1089
Other	56	-44	1936
			$\Sigma(X_2 - \bar{X}_2)^2 = 17606$

B. Pharma

Districts	X_3	$(X_3 - \bar{X}_3)$	$(X_3 - \bar{X}_3)^2$
Bhopal	551	230.2	52992
Indore	386	65.2	4251.04
Gwalior	132	-188.8	35645.4
Jabalpur	89	-231.8	53731.2
Other	446	125.2	15675
			$\Sigma(X_3 - \bar{X}_3)^2 = 162295$



M.E./M.Tech

Districts	X_4	$(X_4 - \bar{X}_4)$	$(X_4 - \bar{X}_4)^2$
Bhopal	402	244.2	59633.6
Indore	158	0.2	0.04
Gwalior	67	-90.8	8244.64
Jabalpur	86	-71.8	5155.24
Other	76	-81.8	6691.24
			$\Sigma(X_4 - \bar{X}_4)^2 = 79724.8$

B.Arch

Districts	X_5	$(X_5 - \bar{X}_5)$	$(X_5 - \bar{X}_5)^2$
Bhopal	15	-3.8	14.44
Indore	56	37.2	1383.84
Gwalior	8	-10.8	116.64
Jabalpur	15	-3.8	14.44
Other	0	-18.8	353.44
			$\Sigma(X_5 - \bar{X}_5)^2 = 1882.8$

M.Pharma

Districts	X_6	$(X_6 - \bar{X}_6)$	$(X_6 - \bar{X}_6)^2$
Bhopal	136	73.4	5387.56
Indore	65	2.4	5.76
Gwalior	17	-45.6	2079.36
Jabalpur	27	-35.6	1267.36
Other	68	5.4	29.16
			$\Sigma(X_6 - \bar{X}_6)^2 = 8769.2$

Sum of squares of the Variance = $\left[\Sigma \left\{ (\bar{X} - \bar{X}_k)^2 \right\} \right]$

$$= \Sigma \left[(X_1 - \bar{X}_1)^2 + (X_2 - \bar{X}_2)^2 + (X_3 - \bar{X}_3)^2 + (X_4 - \bar{X}_4)^2 + (X_5 - \bar{X}_5)^2 + (X_6 - \bar{X}_6)^2 \right]$$

$$= 11852164 + 17606 + 162295 + 79724.8 + 1882.8 + 8769.2$$

= 12122442

Degree of Freedom (df_2) = $n - k = 30 - 6 = 24$

Variance within samples = $\frac{\left[\Sigma \left\{ (\bar{X} - \bar{X}_k)^2 \right\} \right]}{n - k} = \frac{12122442}{24} = 505101.73$

F Ratio = Variance amongst samples/Variance within samples

F Ratio = $\frac{3914219}{505101.73}$

= 7.75

Total Degree of Freedom = $24 + 5 = 29$

Table Value = 2.62



Validation of the Hypothesis

The above statistical analysis is showing that the calculated value of F Ratio is greater than the table value, hence null hypothesis is rejected and alternative hypothesis is accepted that There is a significant difference between number of staff in technical colleges and Districts of Madhya Pradesh.

Conclusion

The subject matter of the Research Study, Data of the Staff of the Colleges in Madhya Pradesh is clearly indicating that referred to the various dimensions of the technical education employees, the major issues of contemplation are imbalance in the number of employees of the colleges and various developmental factors of the state which force an employee to migrate. The number of technical institute employees cannot be said stable in the state because the faculties teaching in engineering institutions as well as the faculties in Bhopal outnumber the other figures. So a balance must be maintained so that the faculties in these institutions are as per need of the students. Employees should be taken care at every stage of their job which will motivate them to work hard and continue in the job.

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