Original Research Article

Functional Relationship between Independent Variables and Scientists' Attitude towards Organizational Climate

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A B S T R A C T

Keywords

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The present study was conducted in the Anand Agricultural University, Anand of Gujarat state, by personally interviewing the proportionally selected 150 scientists engaged in teaching, research and extension activities. The "Ex-Post-Facto" research design was employed for conducting the proposed study. For measuring the functional relationship between independent variables (personal-economic, job related and psychological variables) and scientist's attitude towards organizational climate, the multiple regression analysis using the step wise method was carried out with the help of computer. It was found that out of 11 independent variables, 3 variables were acquainting significant influence on the scientist's attitude towards organizational climate. All the three variables together were contributing 42.50 per cent variation indicated by R^2 value for the attitude towards organizational climate. It can be inferred that 33.50 per cent of the variation in attitude towards organizational climate was explained by attitude towards job. However, Attitude towards job + Job satisfaction accounted 39.50 per cent of the variation. On the other hand, Attitude towards job + Job satisfaction + Job involvement together had contributed 42.50 per cent of the variation, respectively in the attitude towards organizational climate.

Introduction

Organizations that are able to create environment that employees perceive as benign and in which they are able to achieve their full potential are seen as a key source of competitive advantage (Brown and Leigh, 1996).

The nature of organizational climate differs from one university to the other. Organizational climate serves as a measure of individual perceptions or feelings about an organization. Organizational climate includes management or leadership styles, participation in decision making, provision of challenging jobs to employees, reduction of boredom and frustration, provision of benefits and personnel policies, provision of good working conditions and creation of suitable career ladder for academics. The capacity to influence organizational climate is perhaps the most powerful leverage point in the management system because organizational climate properties could have profound effect on performance and satisfaction of employees. On the other hand, low levels of discipline, confidence and responsibility are created in organization under the circumstances of the contemporary world, which influence employees' commitment within the organization.

The study facilitated in knowing the functional relationship between independent variables (personal-economic, job related and psychological variables) and scientist's attitude towards organizational climate, which may directly or indirectly affect their commitment towards organizational, and it would act as a guideline to the administrations or higher authority to plan, implementing programmes related to human resource development within the organization.

Materials and Methods

The study was conducted in the Anand Agricultural University, Anand of Gujarat state. A list of all the scientists doing teaching, research and extension activities under the Anand Agricultural University of Gujarat state was obtained from the office of the Registrar, Anand Agricultural University, Anand. Thereafter, the scientists from each of the activities were selected randomly in such a manner that there would be proportional to total size of the scientists in respective activities. In all, 150 scientists comprising 90 Assistant Professors, 42 Associate Professors and 18 Professors were selected to serve as the respondents for the study. The data were collected through structural interview schedule. The *"Ex-Post-Facto"* research design was employed for conducting the proposed study.

Results and Discussion

The relationship between independent variables and attitude towards organizational climate was ascertained by computing correlation coefficient (r). The correlation coefficient value gives only the strength and direction of relationship between two characters or variables, but it does not reflect on predictive ability of the independent variables to influence the dependent variable.

Hence, in order to assess the amount of contribution or influence or predictive ability of each independent variable to the dependent variable, the multiple regression analysis using the step wise method was carried out with the help of computer.

The stepwise regression, as stated by Efroymson (1962) that is one such method, which has been widely adopted in multiple regression analysis. It has got the added advantage that at each stage of analysis, every variable is subjected to an examination for its predictive value.

The multiple correlations (R) represent the correlation between the dependent variable and a set of independent variables fitted in multiple regression equation. The partial regression coefficient (by1.j) represents the change in dependent variable (Y) with a unit change in independent variable (Xi) keeping other variables constant, and it was tested for its significance by student 't' test.

The various independent variables had their own unit of measurement, which did not permit a comparison of the partial regression coefficients (by1.j). To facilitate comparison, the partial regression coefficients (by1.j) were converted into standardized partial regression coefficients (by1.j) values (ignoring ±) to find out their relative importance in predicting the dependent variable. The content of Table 1 reveals that the independent variables were introduced stepwise in succession, depending upon the contribution of each of them in explaining their variation on the dependent variable and it was diagrammatically represented in figure 1.

It can be observed from the Table, that out of 11 independent variables, 3 variables were acquainting significant influence on the attitude towards organizational climate.

Table.1 Stepwise regression analysis of attitude of the scientists of Anand Agricultural University towards organizational climate

n = 150

Sr. No.	Independent variables	Partial Regression Coefficient (b_i)	Standard error of (b_i)	't' value	Significance	Coefficient of Determination (R^2)	Standard Partial Regression Coefficient (SPRC)	Rank
1.	Attitude towards job (X_{11})	0.763**	0.121	6.288	0.000		0.440	I
2.	Job satisfaction (X_8)	0.273**	0.080	3.386	0.001	0.425 (42.50)	0.239	II
3.	Job involvement (X_6)	0.230**	0.085	3.723	0.007		0.177	III
	CONSTANT	- 0.335						

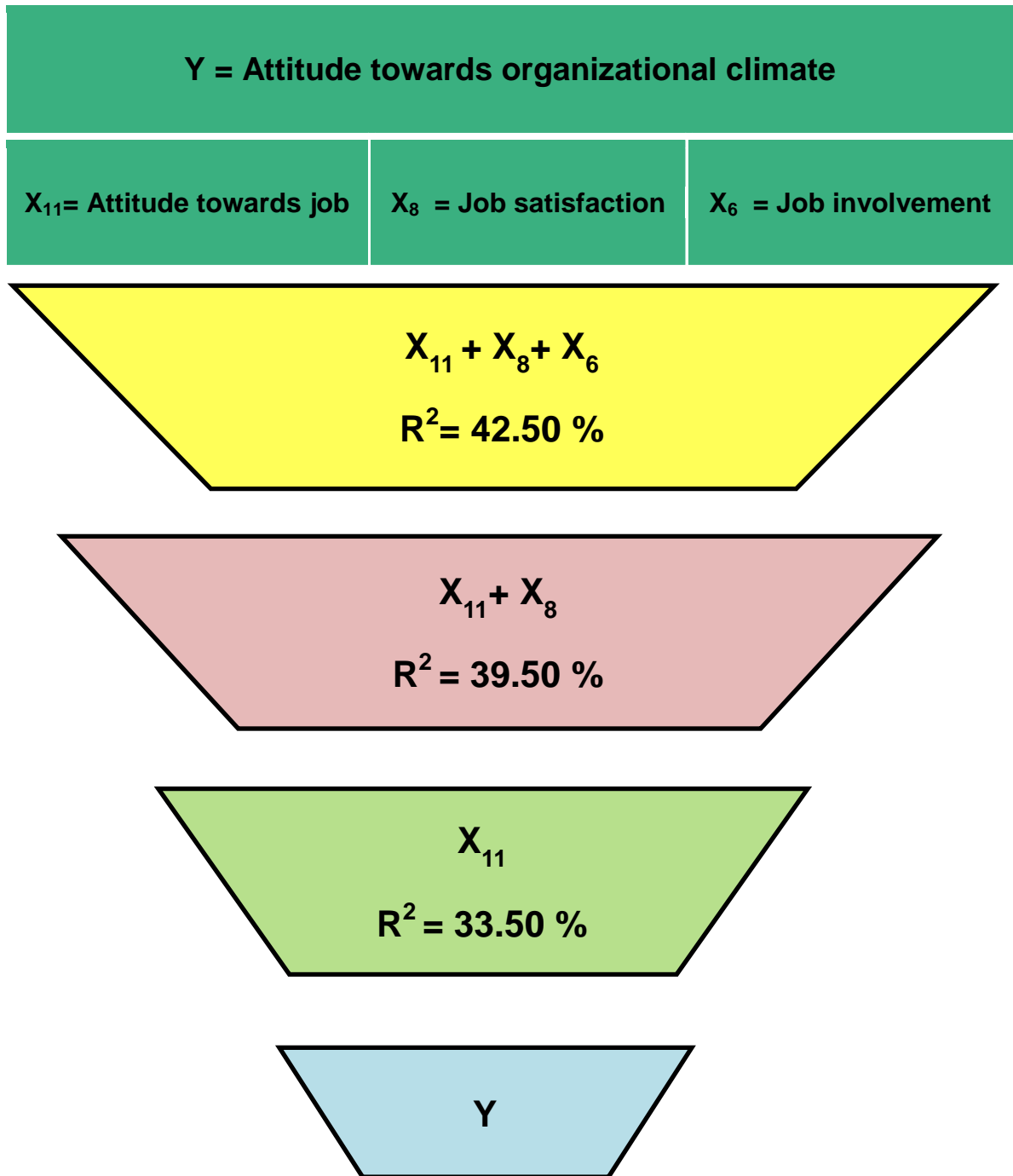**Significant at 0.01 level of probability   (Figures parentheses indicate percentage)

As a result of stepwise regression analysis, the following regression model was obtained:

$Y = a + b_{11}X_{11} + b_8X_8 + b_6X_6$.

$Y = -0.335 + 0.763**X_{11} + 0.273**X_8 + 0.230**X_6$

(R^2= 42.50 %)

Fig.1 Functional relationship between independent variables and the attitude towards organizational climate

Y = Attitude towards organizational climate

X_{11}= Attitude towards job $\quad$ X_8 = Job satisfaction $\quad$ X_6 = Job involvement

$X_{11} + X_8 + X_6$

$R^2 = 42.50\%$

$X_{11} + X_8$

$R^2 = 39.50\%$

X_{11}

$R^2 = 33.50\%$

Y

All the three variables together were contributing 42.50 per cent variation indicated by R^2 value for the attitude towards organizational climate. It can be inferred that 33.50 per cent of the variation in attitude towards organizational climate was explained by attitude towards job. However, Attitude towards job + Job satisfaction accounted 39.50 per cent of the variation. On the other hand, Attitude towards job + Job satisfaction + Job involvement together had contributed 42.50 per cent of the variation respectively in the attitude towards organizational climate.

The R^2 values at each stage of step up regression were significant at 0.01 level of probability. The partial 'b' values of these three variables were converted in to standard partial 'b' values, which were 0.440 for Attitude towards job, 0.239 for Job satisfaction and 0.177 for Job involvement, respectively.

The 't' value or partial 'b' in case of all the independent variables was found to be highly significant at 0.01 level of probability. According highest to lowest standard partial 'b' the rank order was given to the variables. Hence, the null hypothesis for these variables, i.e. Attitude towards job, Job satisfaction, and Job involvement was rejected and for the remaining variables, it was accepted. The findings are suggestive to the fact that these traits may be taken in to consideration for increasing the positive attitude towards organizational climate among the scientists. There was a negligible increase in R^2 by adding more variables. So, the remaining variables were excluded from the model.

In conclusions, the findings of the study clearly imply that out of 11 independent variables, 3 variables were acquainting significant influence on the attitude towards organizational climate. All the three variables together were contributing 42.50 per cent variation indicated by R^2 value for the attitude towards organizational climate. It can be inferred that 33.50 per cent of the variation in attitude towards organizational climate was explained by attitude towards job. However, Attitude towards job + Job satisfaction accounted 39.50 per cent of the variation. On the other hand, Attitude towards job + Job satisfaction + Job involvement together had contributed 42.50 per cent of the variation respectively in the attitude towards organizational climate. The R^2 values at each stage of step up regression were significant at 0.01 level of probability. The partial 'b' values of these three variables were converted in to standard partial 'b' values, which were 0.440 for Attitude towards job, 0.239 for Job satisfaction and 0.177 for Job involvement, respectively.

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