ANALYZING 'JOB SATISFACTION' OF A TEACHER IN AN INSTITUTION

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ABSTRACT
The trend of 'self financing' (Un-aided) institutions has implemented for the last twenty two years in Maharashtra state and other parts of India. The Government does not financially support these institutions. The 'job satisfaction' of teachers working in such institutions is always questionable, particularly in those institutions that are situated in rural part of India. It causes a large amount of turnover of teachers. Here, we have attempted to analyze this question by making use of structural equation modeling. Such type of work is useful to institutions to retain their teachers and increase their involvement in institution. It also helps to determine quality of education.

Key Words: Structural equation modeling; Non measurable parameters; Statistical Technique.

I. INTRODUCTION

In early days, the higher education system of India was well supported by the Government. The salary and 'non salary' expenditures of the institutions were borne by the Government. But soon, Government realizes that it is beyond their capacity to provide higher education to everyone. So, a scheme of 'self financing' institutions was proposed by various State Governments of India [1]. Since then, many new colleges have come up with no financial support from Governments. Particularly, professional higher education colleges such as Engineering, Medical, Management, Computer and Information Technology colleges have come up in a very large number. In Maharashtra State itself, there are more than 500 institutions [2] that are not supported by Government. Because of these institutions, more number of students can get admissions to professional courses. It is found that teachers working in such institutions are frequently changing the institution [3]. It happens because of lack of job satisfaction. It ultimately affects on teaching and their involvement in institution.

Structural Equation Modeling (SEM) provides the ability to accommodate multiple interrelated dependence relationships in a single model [4]. The complex relationship between variables can be modeled by using SEM. The variables for which direct measurement is not possible can be approximated by measurable variables. It can be used in Educational Science as well [5]. 'Job satisfaction' is a kind of non-measurable variable. SEM can be used to estimate 'job satisfaction' of a teacher working in an institution.

II DATABASE

Here, we have considered a case study of a college [3]. The data of teachers working in college on following variables is collected. All the observations are independent. Out of available data, 10 random samples are selected. Table 1 shows the database.

Dependent variable: Job satisfaction (Y_1). Range: 0-100.
Independent variables: Coworker Attitude (X_1) Range: 0-100 and Work Environment (X_2) Range: 0-100.

Sr. No.	X_1	X_2	Y_1
1	80	75	60
2	65	85	70
3	75	80	90
4	80	90	10
5	70	80	50

6	75	65	70
7	70	60	40
8	50	40	30
9	40	45	25
10	80	70	20

Table 1: Database

III. PATH DIAGRAMS

Here, we have selected causal modeling, or path analysis, which hypothesizes causal relationships among variables. Causal models can involve manifest variables, latent variables, or both. Path diagrams can show the relationships between different variables.
Figure 1 shows the path diagram.

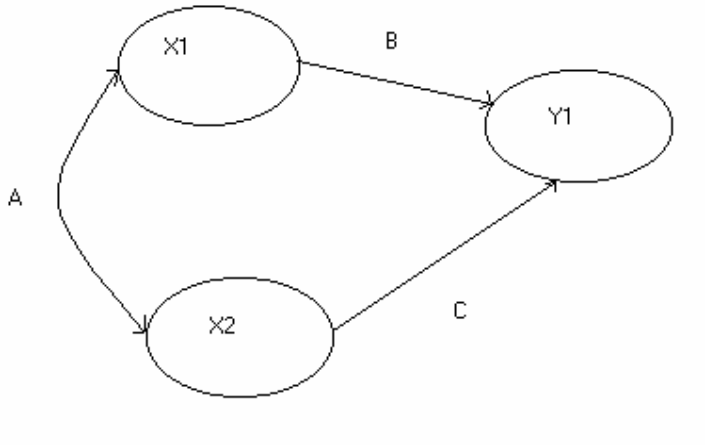

Figure 1: Path diagram

The path diagrams are the basis for the path analysis. The straight lines depict the impact of independent variables on dependent variables. The curved arrows depict the correlation among variables.

IV. PATH ANALYSIS

In path analysis, we determine empirical estimation of the strength of each relationship (paths) depicted in path diagram. Path analysis calculates the strength of the relationship using only correlation matrix as input. The simple correlation between any two variables can be represented as the sum of compound paths connecting these points. Table 2 shows correlation matrix.

	X_1	X_2	Y_1
X_1	1		
X_2	0.756725	1	
Y_1	0.221466	0.294876	1

Table 2: Correlation Matrix

From Table 2, we observe that, variable X_2 has highest correlation to variable X_1. Structural equation can be written as:

$$Y_1 = b_1 X_1 + b_2 X_2$$

In this equation b_1 and b_2 can be found out as follows:

$$R_{X1X2} = A$$
$$R_{X1Y1} = B + A\,C$$
$$R_{X2Y1} = C + A\,B$$

Substituting the values from table 2, we get:

$$0.756725 = A$$
$$0.221466 = B + A\,C$$
$$0.294876 = C + A\,B$$

After solving these equations, we get values of B and C.

$$B\ (b_1) = -0.00392 \qquad C\ (b_2) = 0.297839$$

The structural equation can be written as:

$$Y_1 = -0.00392\ X_1 + 0.297839\ X_2$$

VI. CONCLUSIONS

In Structural Equation Modeling, path analysis can be used to any system of relationship. All the relationships in path diagram can be estimated to quantify the effects between dependent and independent variables. In this paper, we have estimated structural equation for 'job satisfaction'.

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